



Traffic Design Report

Hammond Pond Parkway Improvements, Phase I, Beacon Street to Route 9
Newton, Massachusetts

September 2019 (Rev. 1 October 2020; Rev. 2 February 2021)

Prepared for:

Commonwealth of Massachusetts Department of Conservation and Recreation
251 Causeway Street
Boston, MA, 02114

Prepared by:

BSC Group, Inc.
803 Summer Street
Boston, MA

Contents

Executive Summary	1
Existing Conditions.....	1
Future Conditions.....	3
Proposed Design	3
Traffic Operations Analysis	3
1 Introduction.....	5
2 Existing Conditions.....	6
2.1. Study Area	6
2.2. Existing Roadway Conditions.....	8
2.3. Existing Intersection Conditions	9
2.4. Existing Traffic Conditions.....	11
2.5. Motor Vehicle Crash Data	18
3 Future Conditions.....	21
3.1. Background Traffic Growth.....	21
3.2. Site Specific Growth	21
3.3. Future Traffic Volumes.....	21
4 Proposed Design	25
4.1. Conceptual Improvement Plan.....	25
4.1.1. Hammond Pond Parkway at Beacon Street and Hobart Road	32
4.1.2. Hammond Pond Parkway: Beacon Street to 300 Hammond Pond Parkway	34
4.1.3. Hammond Pond Parkway: Chestnut Hill Mall Driveway to The Street Driveway.....	34
4.2. Pedestrian and Bicycle Accessibility	34
4.3. Construction and Traffic Management	34
5 Traffic Operations Analysis	35
6 Conclusions.....	40

List of Figures

Figure 1	Project Location	7
Figure 2	Hammond Pond Parkway between The Street and The Mall at Chestnut Hill	8
Figure 3	Hammond Pond Parkway between 300 Hammond Pond Parkway and Beacon Street	9
Figure 4	Existing Conditions Geometry and Traffic Control.....	10
Figure 5	2019 Existing Weekday Morning Peak Hour Traffic Volumes.....	14
Figure 6	2019 Existing Weekday Evening Peak Hour Traffic Volumes.....	15
Figure 7	2019 Existing Saturday Midday Peak Hour Traffic Volumes	16
Figure 8	Daily Traffic Volumes – Hammond Pond Parkway south of Beacon Street	17
Figure 9	Motor Vehicle Speeds – Hammond Pond Parkway south of Beacon Street.....	18
Figure 10	2029 Future Weekday Morning Peak Hour Traffic Volumes.....	22
Figure 11	2029 Future Weekday Evening Peak Hour Traffic Volumes	23
Figure 12	2029 Future Saturday Midday Peak Hour Traffic Volumes	24
Figure 13	Hammond Pond Parkway Conceptual Improvement Plan (1 of 5)	27
Figure 14	Hammond Pond Parkway Conceptual Improvement Plan (2 of 5)	28
Figure 15	Hammond Pond Parkway Conceptual Improvement Plan (3 of 5)	29
Figure 16	Hammond Pond Parkway Conceptual Improvement Plan (4 of 5)	30
Figure 17	Hammond Pond Parkway Conceptual Improvement Plan (5 of 5)	31
Figure 18	Hammond Pond Parkway at Beacon Street and Hobart Road Conceptual Improvement Plan	33

List of Tables

Table 1	Automatic Traffic Recorder (ATR) Data Summary Hammond Pond Parkway, South of Beacon Street.....	13
Table 2	Motor Vehicle Crash Data Summary	20
Table 3	Level of Service Designations	35
Table 4	Traffic Operations Analysis Summary – Weekday Morning Peak Hour.....	36
Table 5	Traffic Operations Analysis Summary – Weekday Evening Peak Hour	37
Table 6	Traffic Operations Analysis Summary – Saturday Midday Peak Hour	38

Executive Summary

BSC Group has prepared this Traffic Design Report to document existing traffic operations, evaluate safety and operational characteristics, and provide an evaluation of recommended improvements for an approximately 1-mile segment of Hammond Pond Parkway between Beacon Street and Boylston Street (Route 9) in the Newton Centre and Chestnut Hill neighborhoods of Newton, Massachusetts. The study area for the Project includes Hammond Pond Parkway and the intersections with Beacon Street/Hobart Road (signalized), the 300 Hammond Pond Parkway driveway (unsignalized), The Mall at Chestnut Hill driveway (signalized), and The Street driveway (signalized).

Hammond Pond Parkway was designed and built in the first half of the 1900's and has served as an integral transportation corridor connecting Newton and Brookline through the Chestnut Hill neighborhood. The Parkway provides access to adjacent conservation areas including the City of Newton's Webster Conservation Area and DCR's Hammond Pond Reservation. The Parkway has served many modes of transportation throughout its history and is currently lacking in adequate multi-modal accommodations, specifically for pedestrians and bicyclists.

The DCR is actively seeking opportunities to implement complete streets principles throughout their system of parkways in the Boston metropolitan area. Hammond Pond Parkway is a prime location to showcase the intent of converting a roadway that primarily serves motor vehicles to one that achieves a balance between various modes of transportation including pedestrian activity and bicycling. The Project will achieve these goals by reducing the cross section of Hammond Pond Parkway reserved for motor vehicles and constructing a shared-use path for bicycle and pedestrian uses. The Project will also upgrade all existing crosswalks, curb ramps, and traffic signal equipment within the study area. The signalized intersection of Hammond Pond Parkway at Beacon Street and Hobart Road will be reconfigured to shorten pedestrian crossings and provide optimal phasing for all users.

Further, the DCR is currently coordinating with the City of Newton to address their needs that were identified in the Newton Leads 2040, A Transportation Strategy for Newton planning study. That study identified Hammond Pond Parkway as a corridor for improvements to active transportation modes (walking and bicycling) and as a candidate for a road diet.

This study includes a review of existing traffic and roadway conditions, pedestrian and bicycle facilities, and a safety evaluation for the study area. The study identifies anticipated traffic growth throughout the corridor and provides an operations analysis of existing and future conditions, both with and without the proposed roadway improvements.

Existing Conditions

Hammond Pond Parkway is primarily a four-lane urban principal arterial roadway under DCR jurisdiction that travels in a north-south direction between Beacon Street in Newton and Horace James Circle in Brookline. The Project limits are defined by Beacon Street to the north and Route 9 to the south. A sidewalk is provided along the west side of Hammond Pond Parkway from Route 9 to the 300 Hammond Pond Parkway driveway. Formal pedestrian facilities are not provided north of 300 Hammond Pond Parkway or to the adjacent conservation areas, although a wide shoulder and grassy areas are used for pedestrian activity. Daily traffic volumes counted along Hammond Pond Parkway through the study area

are approximately 18,460 vehicles per day and 1,550 vehicles per hour (both directions) during the peak commuter periods. Based on the *Road Diet Informational Guide*¹, road diets for existing four lane roadways can work for roadways that experience up to 23,000 vpd. The Institute of Transportation Engineers (ITE) also provide guidance on the implementation of road diets². According to ITE case studies, road diets reduce crashes and travel speeds and improve the flow of traffic while having minimal effects on capacity and traffic diversions on roadways under 20,000 vpd.

The posted speed limit on Hammond Pond Parkway is 30 miles per hour (mph). However, the 85th percentile vehicular speeds were measured to be in excess of 45 mph and the majority of vehicles were observed to travel over the posted speed limit, indicating that the current design of the roadway favors vehicular travel and does not address all users' needs.

The combination of high vehicular speeds and lack of pedestrian and bicycle facilities creates potential safety issues that can be addressed through the implementation of complete streets design principles, including a road diet and a separated shared-use path. The traffic volumes along Hammond Pond Parkway indicate that the roadway with the implementation of a road diet will operate within its design capacity.

The Project includes the approximately 1-mile long segment of Hammond Pond Parkway between Beacon Street and Route 9. The study area intersections include the following locations:

- Hammond Pond Parkway at Beacon Street and Hobart Road (signalized)
- Hammond Pond Parkway at 300 Hammond Pond Parkway (unsignalized)
- Hammond Pond Parkway at The Mall at Chestnut Hill (signalized)
- Hammond Pond Parkway at The Street Driveway (signalized)

Existing traffic data was collected to establish a baseline for traffic conditions throughout the study area. Manual turning movement counts (TMCs) were conducted during the weekday morning, weekday evening, and Saturday midday peak periods at the study area intersections and an automatic traffic recorder (ATR) was placed along Hammond Pond Parkway, south of Beacon Street, to collect daily traffic volumes and vehicular speeds.

The traffic counts were used to develop 2019 Existing conditions traffic volume networks for the weekday morning, weekday evening, and Saturday midday peak hours.

A review of motor vehicle crash data for the most recent five-year period for which data is available (2013-2017) was conducted for the study area. A total of 22 crashes occurred at the intersection of Hammond Pond Parkway at Beacon Street/Hobart Road; 7 crashes occurred at the intersection of Hammond Pond Parkway at The Mall at Chestnut Hill driveway; and 17 crashes occurred at the intersection of Hammond Pond Parkway at The Street driveway. The crash rates at each location are below the MassDOT District 6 average crash rate for signalized intersections.

¹ *Road Diet Informational Guide*; Federal Highway Administration; Washington, DC; 2014.

² *Designing Walkable Urban Thoroughfares: A Context Sensitive Approach*; Institute of Transportation Engineers; Washington, DC; 2010.

Although there were no significant safety deficiencies that were identified, the Project will look to improve safety by reducing vehicular speeds, providing a separated facility for pedestrians and bicycles, and upgrading traffic signals.

Future Conditions

Traffic volumes in the study area were projected to the year 2029, which reflects a ten-year traffic planning horizon. The future volumes considered general background traffic growth and site-specific growth from planned developments in the vicinity of the study area. A 0.5 percent per year annual traffic growth rate was applied to the 2019 traffic volumes. A review of other projects in the area indicates that Boston College is planning on renovating their property at 300 Hammond Pond Parkway. However, the renovations are not expected to change traffic volumes along the driveway or traffic patterns throughout the study area. A 2029 Future conditions traffic volume network was developed for the weekday morning, weekday evening, and Saturday midday peak hours.

Proposed Design

The objective of the Project is to provide a modern design of Hammond Pond Parkway that will meet the current multi-modal needs of the transportation system. The improvements will incorporate complete streets principles by reducing the number of lanes on Hammond Pond Parkway and adding pedestrian and bicycle facilities to the corridor that accommodate ADA accessibility needs. The improvements will also include upgraded traffic signals throughout the corridor and geometric modifications at the intersection of Hammond Pond Parkway at Beacon Street and Hobart Road.

The Project consists of the following elements:

- Hammond Pond Parkway will be reduced from four travel lanes to two travel lanes, except at the southern end of the Project where there will continue to be two southbound lanes at the intersection with The Street driveway
- A new ten to twelve-foot wide shared-use pathway for bicycles and pedestrians will be constructed along the west (southbound) side of the roadway between Beacon Street and Route 9 separated by a landscaping strip.
- The geometry at the intersection of Hammond Pond Parkway at Beacon Street and Hobart Road will be modified to shorten pedestrian crossings by removing existing islands and eliminating a northbound left-turn lane
- The geometry at the intersection of Hammond Pond Parkway at The Mall at Chestnut Hill will be modified by removing an eastbound left-turn lane from the driveway approach
- New traffic signal equipment will be installed at the intersections in the above two bulleted items and will include an optimal signal phasing and timing plan that incorporates pedestrian movements
- All pedestrian facilities will be upgraded or replaced to comply with ADA requirements

Traffic Operations Analysis

A traffic operations analysis was conducted for the study area intersections under the 2019 Existing Conditions, 2029 Future Conditions without Improvements, and 2029 Future Conditions with Improvements. The analyses indicate that the Project will not significantly impact traffic operations compared to current conditions. However, the Hammond Pond Parkway northbound left-turning

movements at Beacon Street will experience higher delays and queuing due to the removal of a left-turn lane.

1 Introduction

BSC Group (BSC) has prepared this Traffic Design Report to document existing traffic conditions, evaluate safety and operations, and develop roadway and intersection improvements for Hammond Pond Parkway between Beacon Street and Boylston Street (Massachusetts Route 9) in Newton, Massachusetts.

Hammond Pond Parkway was designed in 1913 and constructed in 1931-1932 and serves as an integral transportation corridor through the Chestnut Hill areas of Newton and Brookline. The southern terminus of Hammond Pond Parkway connects to other portions of the DCR parkway system at the Horace James Circle in Brookline and the northern terminus connects to Beacon Street in Newton.

The Parkway has served many modes of transportation throughout its history and is currently in need of an overhaul to meet the needs and requirements for multi-modal transportation. The Parkway will be redesigned to significantly improve both bicycle and pedestrian connectivity through the implementation of Complete Streets principles focusing on a reduction in travel lanes, the construction of a shared-use path, and the implementation of appropriate streetscape elements. The Project will also enhance accessibility to the two major conservation areas abutting Hammond Pond Parkway: the City of Newton's Webster Conservation Area and DCR's Hammond Pond Reservation.

The DCR is actively seeking opportunities to implement complete streets principles throughout their system of parkways in the Boston metropolitan area. Hammond Pond Parkway is a prime location to showcase the intent of converting a roadway that primarily serves motor vehicles to one that achieves a balance between various modes of transportation including pedestrian activity and bicycling. The Project will achieve these goals by reducing the cross section of Hammond Pond Parkway reserved for motor vehicles and constructing a shared-use path for bicycle and pedestrian uses. The Project will also upgrade all existing crosswalks, curb ramps, and traffic signal equipment within the study area. The signalized intersection of Hammond Pond Parkway at Beacon Street and Hobart Road will be reconfigured to shorten pedestrian crossings and provide optimal phasing for all users.

Further, the DCR is currently coordinating with the City of Newton to address their needs that were identified in the Newton Leads 2040, A Transportation Strategy for Newton planning study. That study identified Hammond Pond Parkway as a corridor for improvements to active transportation modes (walking and bicycling) and as a candidate for a road diet.

This study includes a review of existing traffic and roadway conditions, pedestrian and bicycle facilities, and a safety evaluation along the project corridor and at the intersecting roadways. The report identifies anticipated traffic growth throughout the corridor and provides an operations analysis of existing and future conditions, both with and without the proposed roadway improvements. The proposed improvements are shown in conceptual plans in the later sections of the study.

2 Existing Conditions

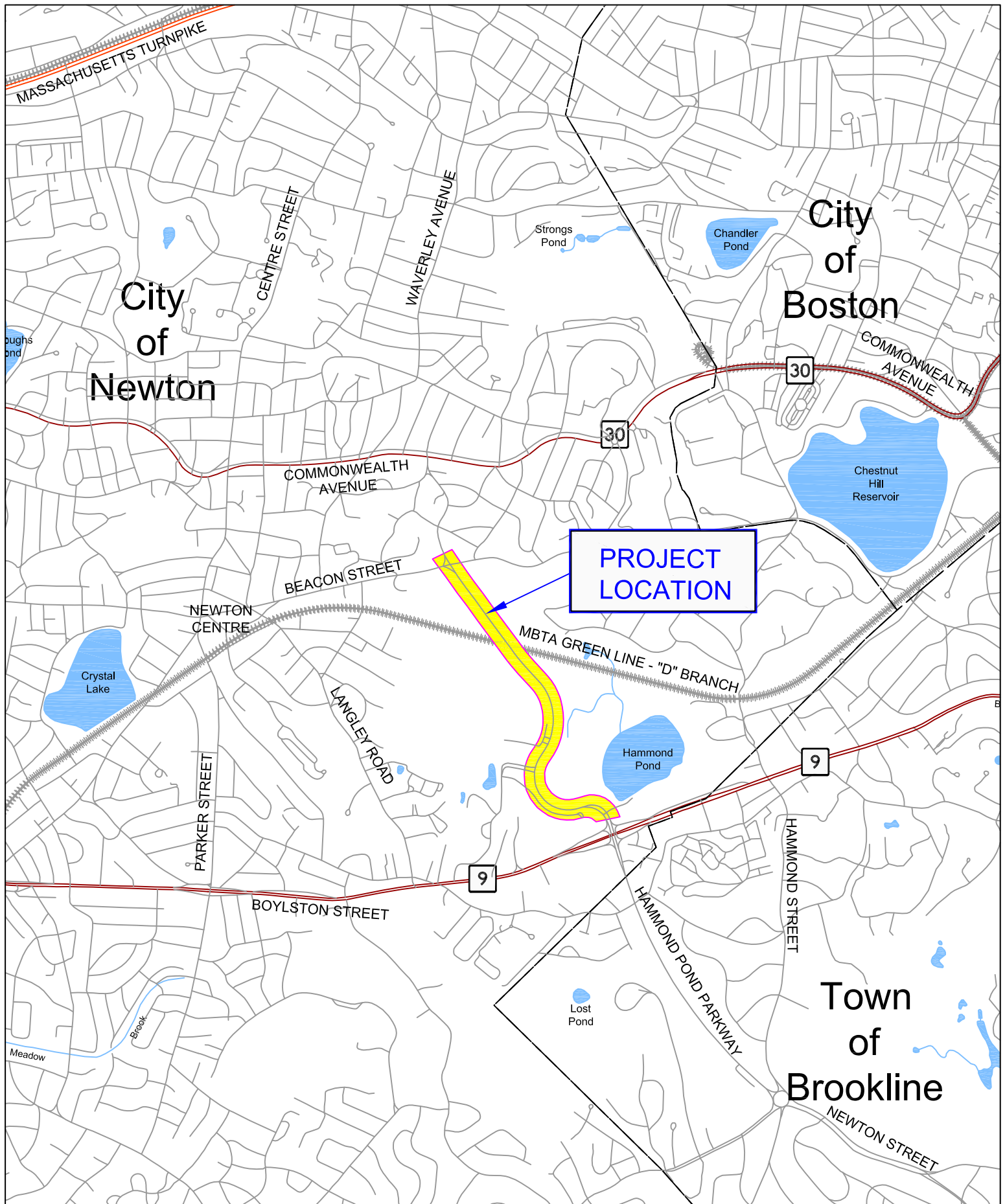
The Project will consist of the reconstruction of Hammond Pond Parkway between Beacon Street and Boylston Street in Newton, Massachusetts. This segment of Hammond Pond Parkway is approximately one-mile in length and includes three signalized intersections (excluding the intersections at the Route 9/Hammond Pond Parkway ramps). This section describes the study area roadway and intersections.

2.1. Study Area

The study area for the traffic impact analysis includes the following intersections along Hammond Pond Parkway:

- Hammond Pond Parkway at Beacon Street and Hobart Road
- Hammond Pond Parkway at 300 Hammond Pond Parkway
- Hammond Pond Parkway at 250 Hammond Pond Parkway (The Mall at Chestnut Hill)
- Hammond Pond Parkway at The Street Driveway

The location of the Project in relation to the surrounding roadway network is shown in Figure 1.



Project Location
Hammond Pond Parkway Improvements
Newton, MA

Figure 1

2.2. Existing Roadway Conditions

Hammond Pond Parkway

Hammond Pond Parkway is primarily a four-lane urban principal arterial roadway under DCR jurisdiction that travels in a north-south direction between Beacon Street in Newton and Horace James Circle in Brookline. The Project limits are defined by Beacon Street to the north and Boylston Street to the south. Within the study area, the directions of travel are generally separated by a double-yellow centerline throughout the study area. The segment of Hammond Pond Parkway between The Street Driveway and The Mall at Chestnut Hill contains a one-lane segment in the northbound direction, with the directions of travel separated by a painted median. The existing cross section of this segment is shown in Figure 2.

Figure 2 Hammond Pond Parkway between The Street and The Mall at Chestnut Hill



Dedicated turn lanes are also provided along Hammond Pond Parkway at key intersections. Sidewalks are provided along both sides of Hammond Pond Parkway south of The Street Driveway and through the Route 9 interchange. A sidewalk is provided along the west (southbound) side of Hammond Pond Parkway from the Route 9 interchange to 300 Hammond Pond Parkway. The sidewalk terminates north of 300 Hammond Pond Parkway, where it becomes an informal pedestrian path created from heavy

usage. The existing cross section of the segment between 300 Hammond Pond Parkway and Beacon Street is shown in Figure 3.

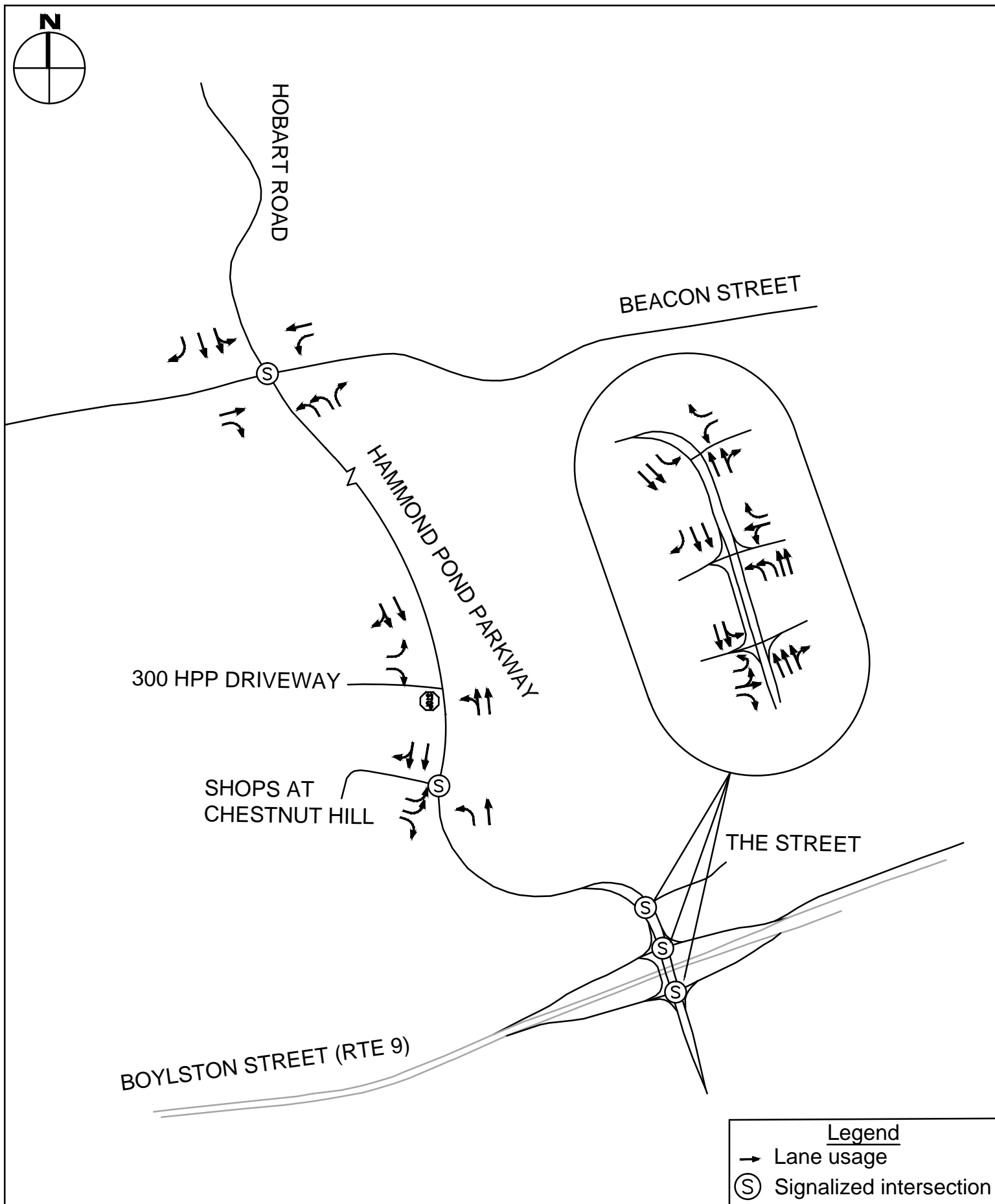
Figure 3 Hammond Pond Parkway between 300 Hammond Pond Parkway and Beacon Street



Formal pedestrian facilities are not provided from Beacon Street to 300 Hammond Pond Parkway, although a wide shoulder and grassy areas are used for pedestrian activity along this segment. The posted speed limit along Hammond Pond Parkway is 30 miles per hour (mph). However, a review of available traffic data indicates that the 85th percentile vehicular speed is in excess of 45 mph. A summary of vehicular speeds along Hammond Pond Parkway is provided in Section 2.4. Land uses along Hammond Pond Parkway include the Hammond Pond Reservation, the Webster Conservation Area, the Cohen Conservation Area, a synagogue on property currently owned by Boston College, and retail/shopping areas. Hammond Pond Parkway is also used for parking during football games at Boston College, as there are currently no parking restrictions along the roadway.

2.3. Existing Intersection Conditions

The following describes the geometric conditions and traffic control at the study area intersections. Figure 4 shows the lane geometry and traffic control at the study area intersections.



Existing Conditions Geometry and Traffic Control
Hammond Pond Parkway Improvements
Newton, MA

Figure 4

Hammond Pond Parkway at Beacon Street and Hobart Road

Hammond Pond Parkway, Beacon Street, and Hobart Road intersect to form a four-legged, signalized intersection at the north end of the Project limits. The Beacon Street eastbound approach consists of a through travel lane, a short exclusive, channelized right-turn lane, and a bicycle lane. The Beacon Street westbound approach consists of an exclusive left-turn lane, a through travel lane, and a bicycle lane. The Hammond Pond Parkway northbound approach consists of two exclusive left-turn lanes and a short exclusive, channelized right-turn lane under stop-sign control. The two northbound left-turn lanes quickly merge into one receiving lane along Beacon Street westbound, creating conflicts that occur just west of the intersection. The Hobart Road southbound approach is one-way and consists of a shared left-turn/through lane, a through lane, and an exclusive, channelized right-turn lane under stop-sign control. Marked crosswalks and pedestrian signal equipment is provided across the north, east, and south legs of the intersection. Sidewalks are provided along both sides of Beacon Street and along the west side of Hobart Road. Land uses at the intersection consist of conservation land, recreational park land, and residential properties.

Hammond Pond Parkway at 300 Hammond Pond Parkway Driveway

The 300 Hammond Pond Parkway driveway intersects Hammond Pond Parkway from the west to form a three-legged, unsignalized intersection. The driveway eastbound approach consists of a single lane under stop-sign control and serves an existing synagogue located on the property. The Hammond Pond Parkway northbound and southbound approaches consist of two travel lanes in each direction. A sidewalk is provided along the west side of Hammond Pond Parkway at the intersection.

Hammond Pond Parkway at 250 Hammond Pond Parkway Driveway (The Mall at Chestnut Hill)

The 250 Hammond Pond Parkway driveway intersects Hammond Pond Parkway from the west to form a three-legged, signalized intersection. The driveway eastbound approach consists of two exclusive left-turn lanes and an exclusive right-turn lane and serves The Mall at Chestnut Hill. The Hammond Pond Parkway northbound approach consists of an exclusive left-turn lane and a through travel lane. The Hammond Pond Parkway southbound approach consists of a through travel lane and a shared through/right-turn lane. A sidewalk is provided along the west side of Hammond Pond Parkway and the south side of the driveway. Crosswalks and pedestrian signal equipment are not provided at the intersection.

Hammond Pond Parkway at The Street Driveway

The Street Driveway intersects Hammond Pond Parkway from the east to form a three-legged, signalized intersection. The driveway westbound approach consists of an exclusive left-turn lane and an exclusive right-turn lane. The Hammond Pond Parkway northbound approach consists of a through lane and a shared through/right-turn lane. The Hammond Pond Parkway southbound approach consists of an exclusive left-turn lane and two through travel lanes. Sidewalks are provided along both sides of Hammond Pond Parkway and the north side of the driveway. Crosswalks and pedestrian signal equipment are provided across the south and east legs of the intersection.

2.4. Existing Traffic Conditions

Existing traffic data was collected to establish a baseline for traffic conditions throughout the Project's study area.

Manual turning movement counts (TMCs) were conducted in April 2019 during the weekday morning (7:00 – 9:00 AM), weekday evening (4:00 – 6:00 PM), and Saturday midday (11:00 AM – 2:00 PM) peak periods at the following three study intersections:

- Hammond Pond Parkway at Beacon Street and Hobart Road
- Hammond Pond Parkway at 300 Hammond Pond Parkway
- Hammond Pond Parkway at 250 Hammond Pond Parkway (The Mall at Chestnut Hill)

TMCs conducted in November 2016 were obtained from a previous study for the same peak periods for the intersection of Hammond Pond Parkway at The Street Driveway. A review of the traffic volumes in 2016 indicate that they are generally higher than those collected in 2019. Based on this review, a growth rate was not applied to the 2016 volumes to represent the existing 2019 conditions. The 2019 Existing weekday morning, weekday evening, and Saturday peak hour traffic volumes are shown on Figures 5 through 7.

An automatic traffic recorder (ATR) were placed on Hammond Pond Parkway, south of Beacon Street, to collect traffic volumes and vehicular speeds. The ATRs collected data from Tuesday March 12 to Monday March 18, 2019. The summary of the ATR data is presented in Table 1 and Figure 8. The speed data is presented in Figure 9.

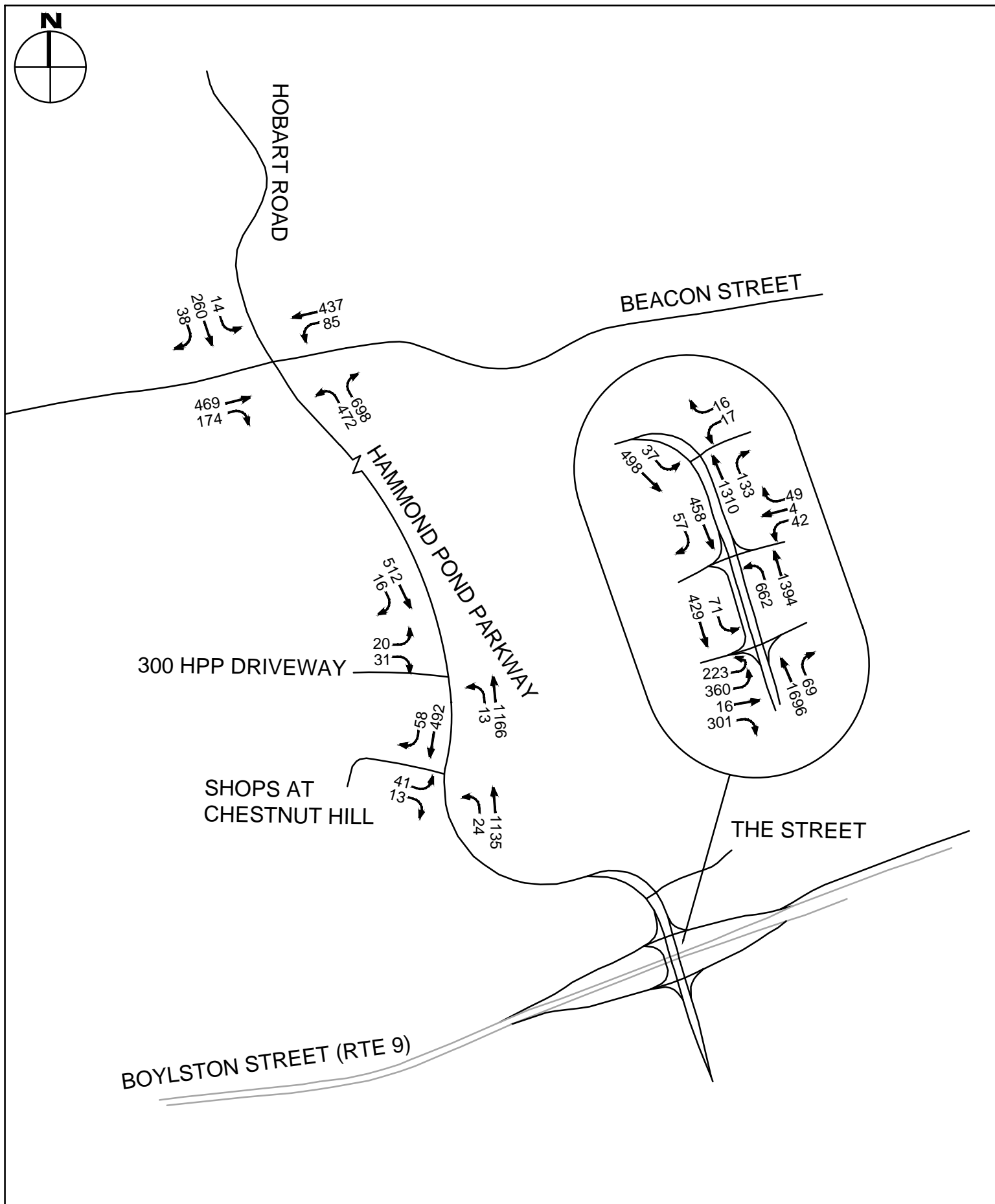
The weekday daily traffic reported in Table 1 is the average from the Tuesday through Thursday during the week that the data was collected. Average weekday traffic volumes are approximately 18,460 and below the threshold of 23,000 vpd for the feasibility of a road diet as previously stated. The peak hourly volumes range from 515 vehicles per hour (vph) to 1,095 vph during the weekday morning period and 765 vph to 795 vph during the weekday evening period. These volumes are also below the vehicular capacity of a single lane (1,900 vph). To accommodate the volume at the intersections, additional turn lanes are provided.

The 85th percentile speeds are 47 mph in the northbound direction and 43 mph in the southbound direction, well in excess of the posted 30 mph speed limits along Hammond Pond Parkway. The detailed traffic data is provided in the Appendix.

Table 1 **Automatic Traffic Recorder (ATR) Data Summary
Hammond Pond Parkway, South of Beacon Street**

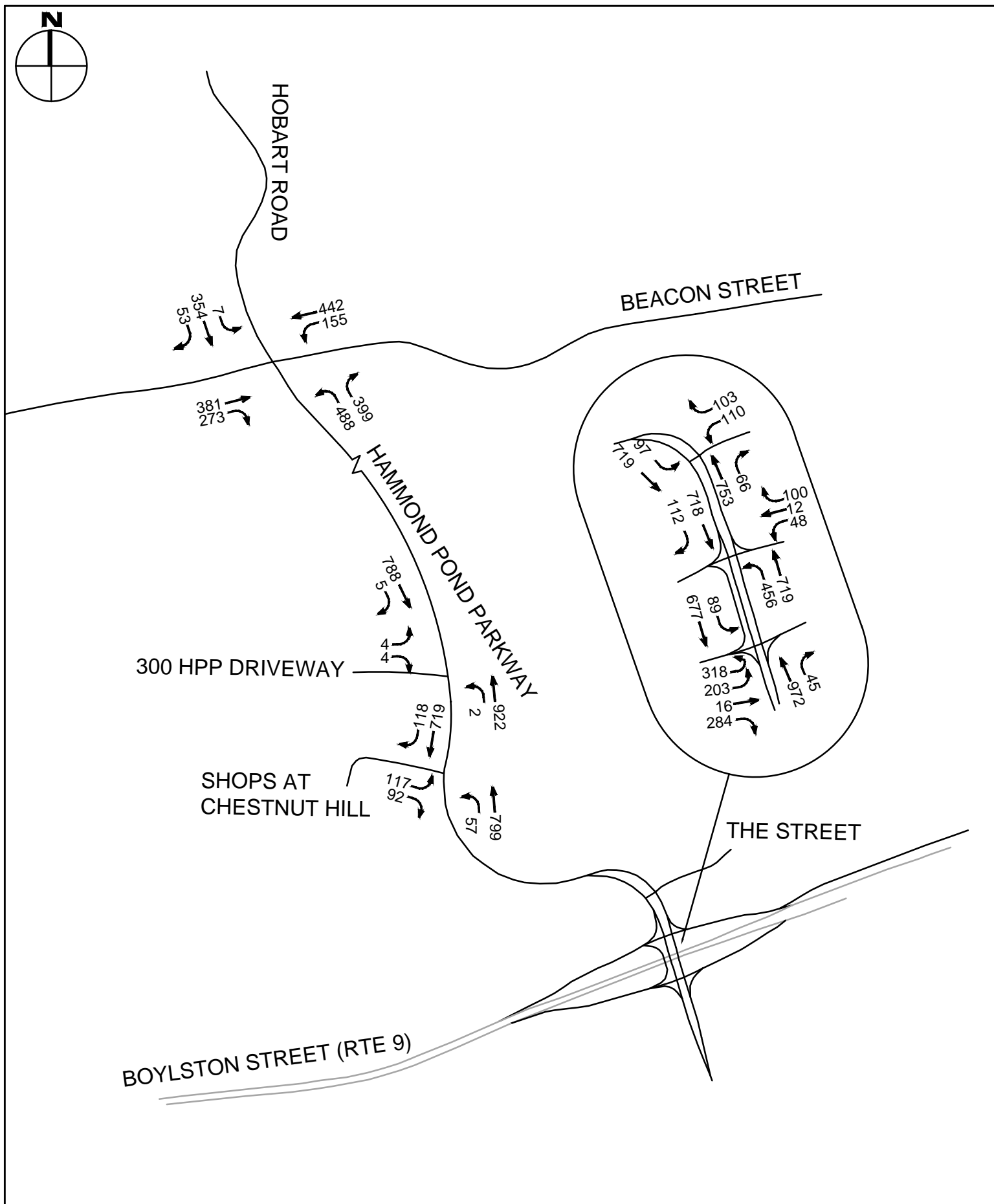
Weekday Daily Volume¹	18,460
Weekday Morning Peak Hour	
Volume ²	1,550 (1,050 NB/500 SB)
K Factor ³	8.4%
Directional Flow ⁴	68% NB
Weekday Evening Peak Hour	
Volume	1,490 (730 NB/760 SB)
K Factor	8.1%
Directional Flow	51% SB
Saturday Daily Volume	14,840
Saturday Midday Peak Hour	
Volume	1,350 (700 NB/650 SB)
K Factor	9.0%
Directional Flow	52% NB

- 1 vehicles per day
- 2 vehicles per hour
- 3 percentage of daily trips that occur during the peak hour
- 4 percentage of peak hour traffic by direction



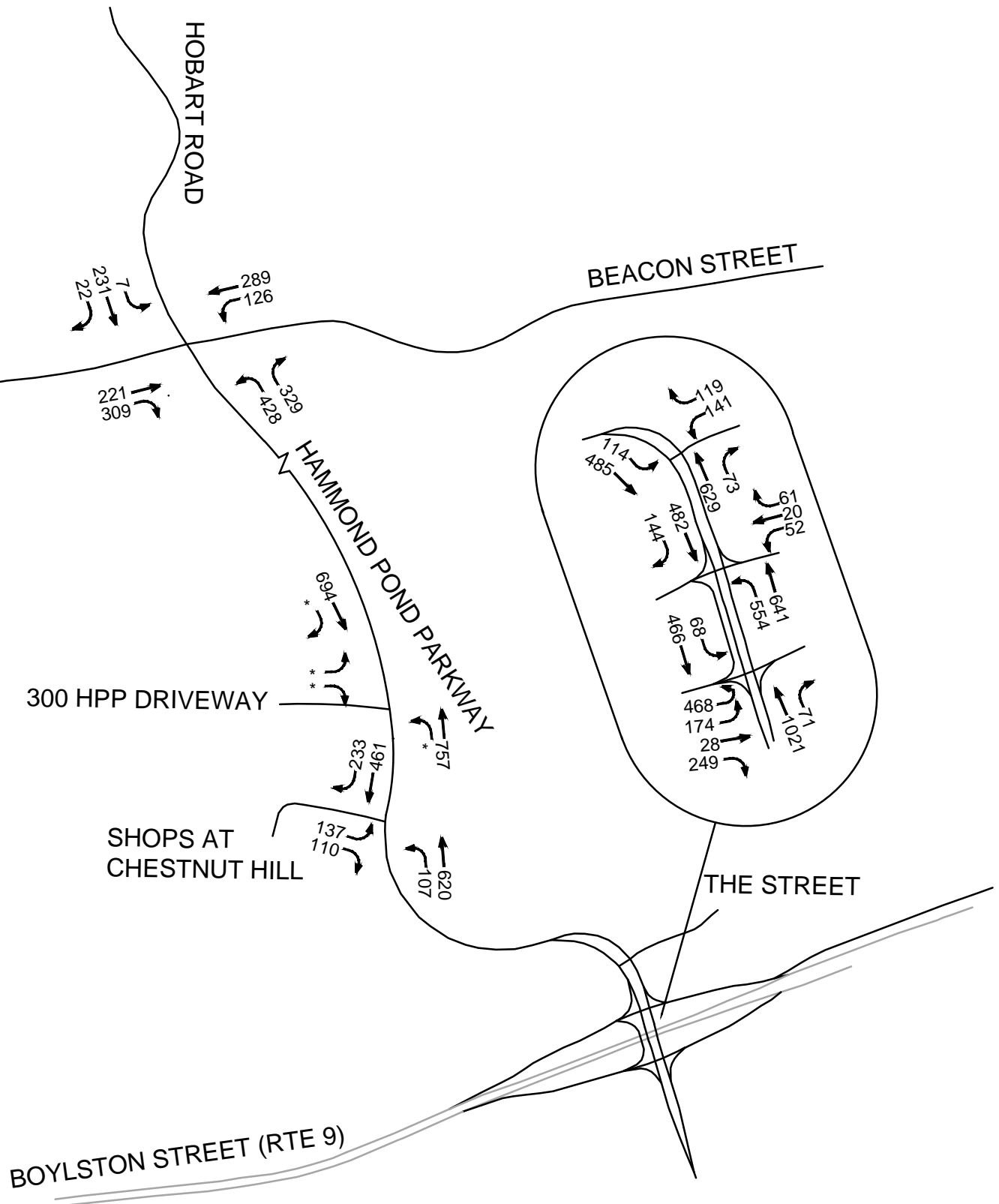
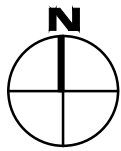
2019 Weekday Morning Existing Peak Hour Traffic Volumes
Hammond Pond Parkway Improvements
Newton, MA

Figure 5



2019 Weekday Evening Existing Peak Hour Traffic Volumes
Hammond Pond Parkway Improvements
Newton, MA

Figure 6



* Movement not counted during Saturday midday peak hour

Figure 8 **Daily Traffic Volumes – Hammond Pond Parkway south of Beacon Street**

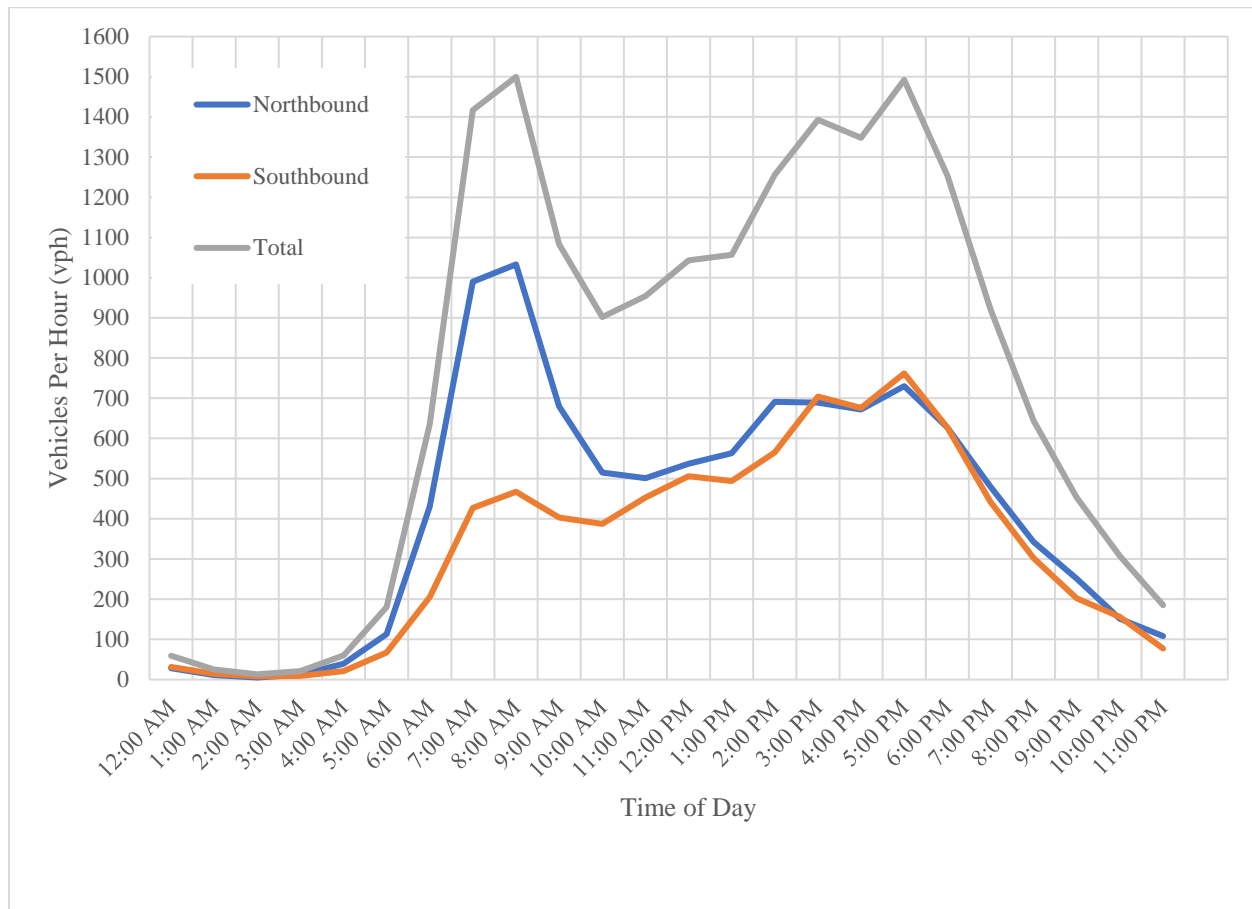
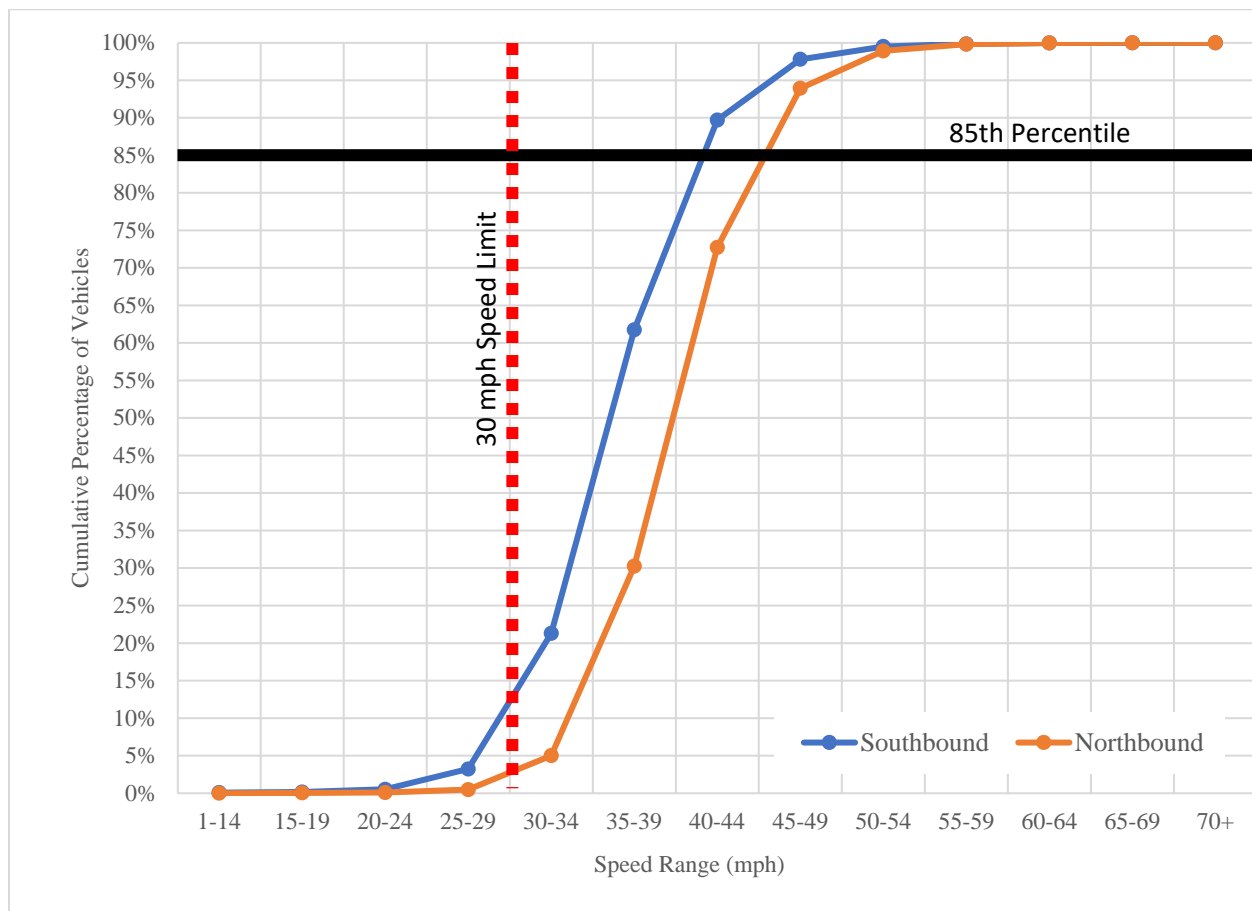


Figure 9 Motor Vehicle Speeds – Hammond Pond Parkway south of Beacon Street

2.5. Motor Vehicle Crash Data

Motor vehicle crash data were obtained for the Project's study area from the MassDOT crash database for the years 2012-2016. The data is used to identify correctable safety issues and crash trends. The current MassDOT average crash rate for unsignalized intersections in District 6 (the MassDOT district in which the Project is located) is 0.52 and the average crash rate for signalized intersections is 0.71. Table 2 presents the motor vehicle crash data for the years 2013-2017.

As shown in Table 2, the calculated crash rates throughout the study area are lower than the District 6 average for signalized intersection locations. The evaluation indicates that there are no significant safety issues based on the crash history. However, vehicular speeds continue exceed the posted speed limit and desired speed, creating potential safety issues for multi-modal users such as bicyclists and pedestrians.

The intersection of Hammond Pond Parkway at Beacon Street and Hobart Road experienced a total of 22 crashes over the five-year review period and a crash rate of 0.40 crashes per million entering vehicles. The majority of crashes were rear-end collisions, possibly indicating issues with the traffic signal timings, queues at the intersection, and overall levels of congestion.

The intersection of Hammond Pond Parkway at the Chestnut Hill Mall Driveway experienced seven crashes over the five-year review period, with angle and rear-end type collisions comprising the majority.

The intersection of Hammond Pond Parkway at The Street Driveway experienced a total of 17 crashes over the five-year period. Angle type collisions represented the majority, which could be due to conflicting vehicle maneuvers at the intersection. With the exception of a single crash resulting in an injury, all crashes at this intersection resulted in property damage only, indicating that the collisions may be occurring at lower speeds through the intersection.

The review of the motor vehicle crash data also indicated that there were no reported crashes at the intersection of Hammond Pond Parkway at 300 Hammond Pond Parkway driveway and that all crashes identified along the roadway were related to one of the intersections shown in Table 2.

Table 2 Motor Vehicle Crash Data Summary

	Hammond Pond Parkway/ Beacon Street/ Hobart Road	Hammond Pond Parkway/ Mall at Chestnut Hill	Hammond Pond Parkway/ The Street Driveway
Total Crashes	22	7	17
Year			
2013	3	0	1
2014	4	3	1
2015	4	1	11
2016	4	2	3
2017	7	1	1
Severity			
Property Damage	16	5	16
Injury	6	2	1
Fatality	0	0	0
Collision Type			
Angle	4	3	12
Rear End	12	3	4
Sideswipe	1	0	0
Other	5	1	1
Time			
12AM – 7AM	2	0	0
7AM – 9AM	1	0	1
9AM – 4PM	11	4	11
4PM – 6PM	1	1	1
6PM – 12AM	7	2	4
Road Conditions			
Dry	17	6	16
Wet	4	0	1
Ice/Snow	1	1	0
Month			
Dec – Feb	5	3	3
Mar – May	8	1	6
June – Aug	5	3	3
Sept – Nov	4	0	5
Light Conditions			
Daylight	13	4	15
Dark	9	3	2
Dawn	0	0	0
Dusk	0	0	0
Average Per Year	4.40	1.40	3.40
Intersection Type	Sig	Sig	Sig
Calculated Crash Rate ¹	0.40	0.17	0.43
Exceeds District Average?	No	No	No

¹ Per million entering vehicles, as defined by the MassDOT Highway Division

3 Future Conditions

Traffic volumes in the study area were projected to the year 2029, which reflects a ten-year traffic planning horizon. The future traffic volumes considered general traffic growth trends in the area and new traffic expected to be generated by planned and proposed projects in the vicinity of the Project.

3.1. Background Traffic Growth

A review of historical traffic count data indicates that volumes have decreased from 2016 to 2019 along Hammond Pond Parkway. To account for unforeseen traffic growth along the roadway, an annual traffic growth rate of 0.5 percent per year was applied to the 2019 traffic volumes.

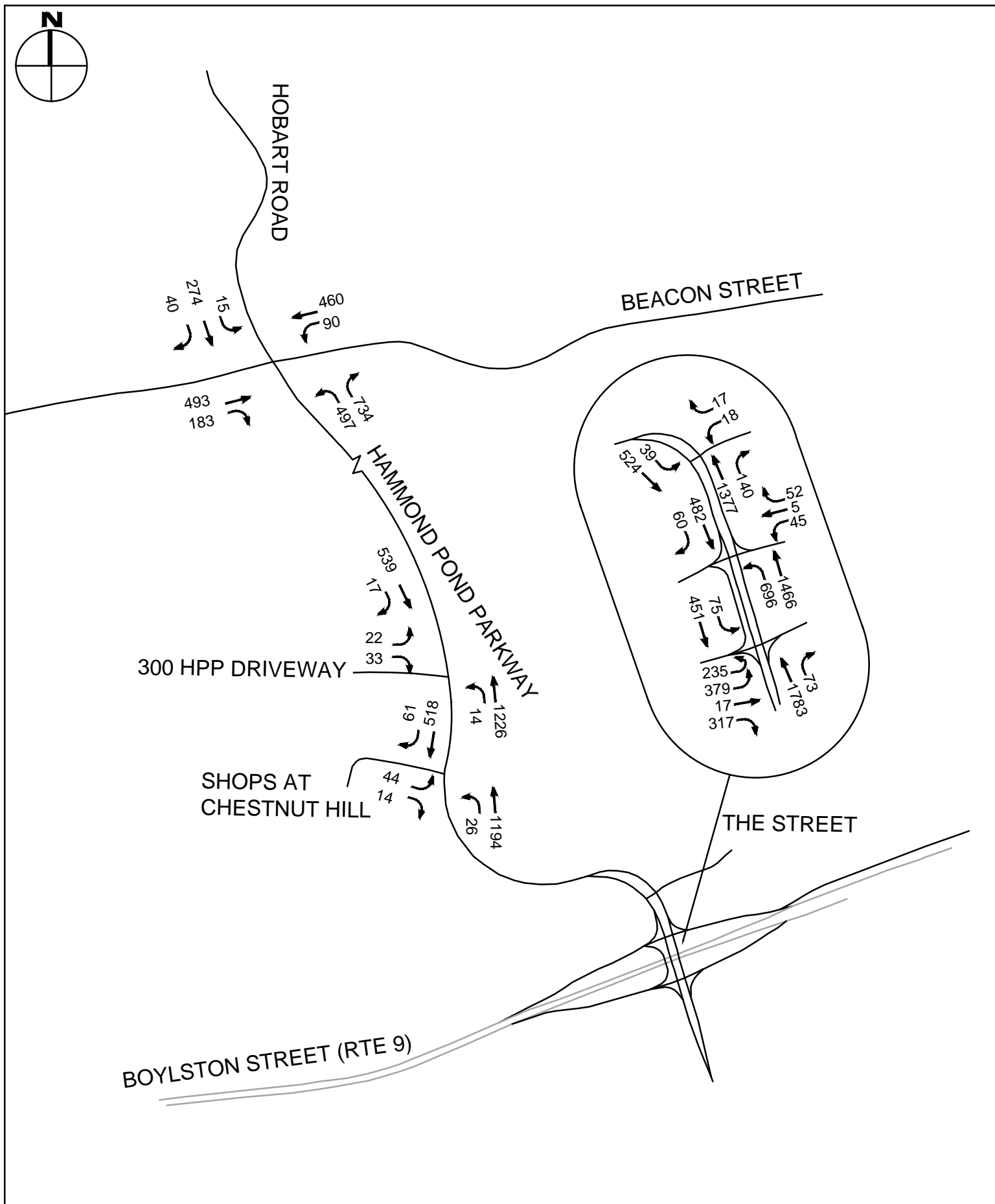
3.2. Site Specific Growth

The 300 Hammond Pond Parkway property is currently owned by Boston College and will be renovated for future university use. Operations and usage of the site are not expected to change significantly from existing conditions after the renovations are complete. As such, traffic volumes from the future renovation project were not added to or subtracted from the existing traffic volume network. There are no additional proposed projects within the vicinity of the study area that are expected to change traffic patterns along Hammond Pond Parkway.

3.3. Future Traffic Volumes

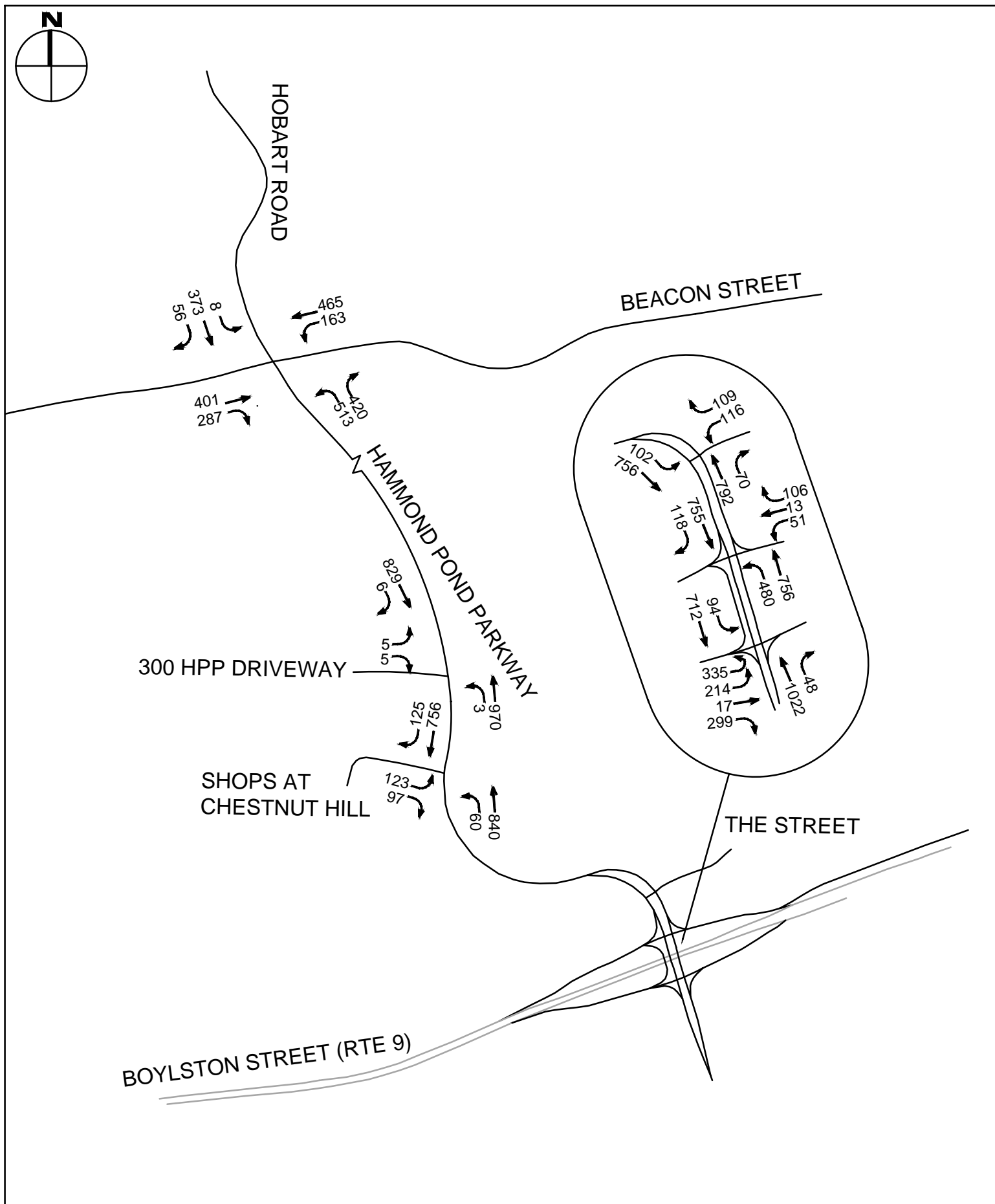
The 0.5 percent per year annual growth rate was applied to the 2019 existing condition traffic volumes. The 2029 future condition traffic volumes are presented in Figures 10 through 12 for the weekday morning, weekday evening, and Saturday midday peak hours. Based on information obtained from MassDOT³, traffic volumes through 2020 and early 2021 have decreased significantly from the levels experienced in 2019. Traffic reductions along the Massachusetts Turnpike through Newton have fluctuated by week and have generally been between 25 to 40 percent since July 2020. It is expected that traffic volumes will continue to be lower than 2019 levels throughout 2021, while the various restrictions on employment and commerce remain in place. Traffic volumes are expected to increase from 2020 levels in the future. However, the levels of increase are unpredictable and will be influenced by systemic changes in trends in employment and residential patterns. It is possible that traffic volumes in 2029 will not reach the volumes projected in this study by applying the 0.5 percent annual growth rate to the 2019 volumes. To account for the unpredictability of future traffic patterns, the projected traffic volumes are conservative or higher than what may be realized in ten years.

³ MassDOT Mobility Dashboard; data updated January 26, 2021.



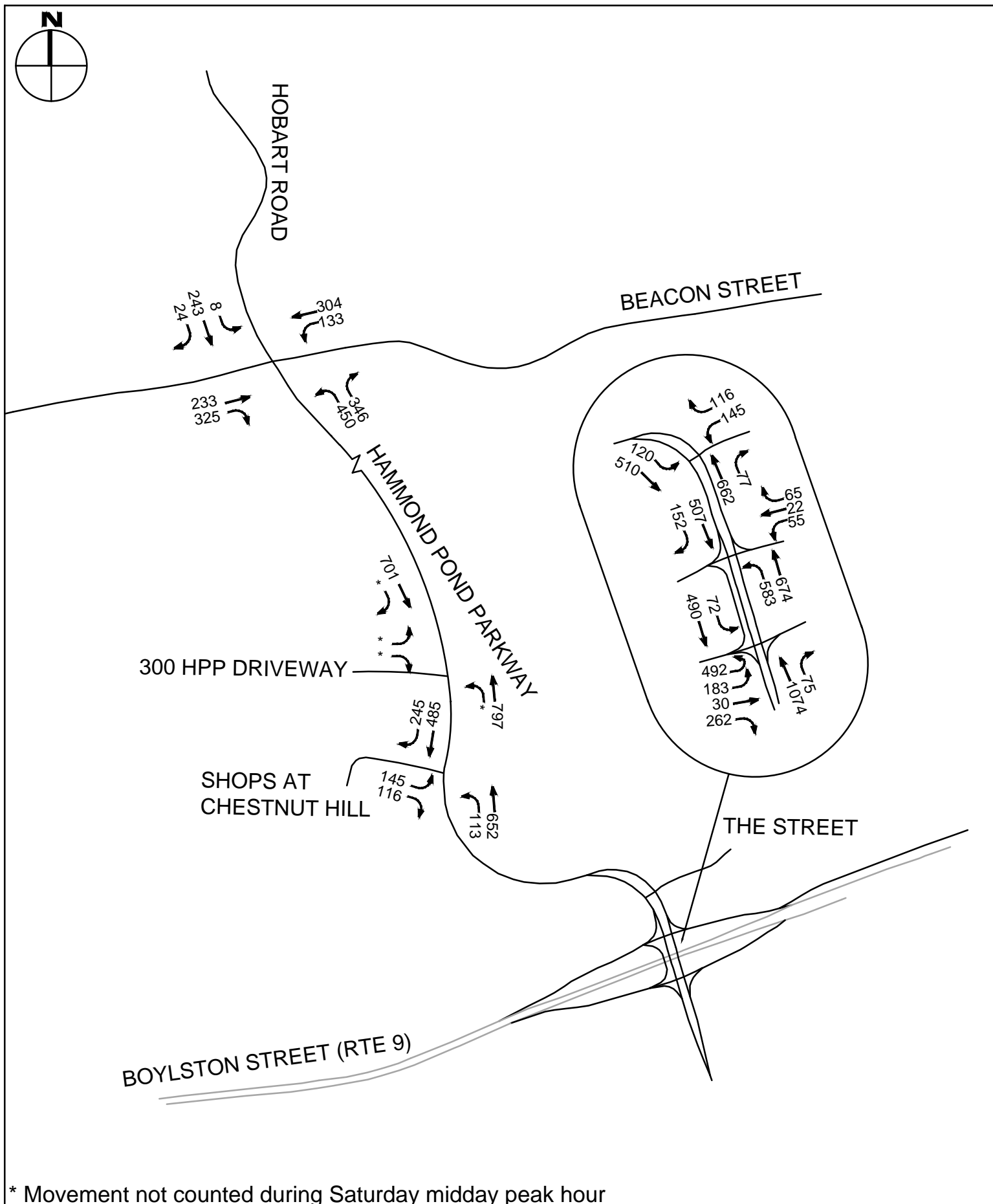
2029 Projected Weekday Morning Peak Hour Traffic Volumes
Hammond Pond Parkway Improvements
Newton, MA

Figure 10



2029 Projected Weekday Afternoon Peak Hour Traffic Volumes
Hammond Pond Parkway Improvements
Newton, MA

Figure 11



2029 Projected Saturday Midday Traffic Volumes
Hammond Pond Parkway Improvements
Newton, MA

Figure 12

4 Proposed Design

The objective of the Project is to provide a modern design that will meet the current multi-modal needs of the transportation system. The Project will redesign Hammond Pond Parkway between Route 9 and Beacon Street to align with the long-term vision of a comprehensive bicycle and pedestrian network throughout the parkway system. Currently, the Parkway is not conducive to bicycling and pedestrian activity due to the high travel speeds and lack of formal infrastructure to accommodate user needs other than vehicles.

The Hammond Pond Parkway improvement project will incorporate complete streets principles by reducing the number of vehicular travel lanes and adding pedestrian and bicycle facilities to the corridor. The lane reductions along with the new pedestrian and bicycle facilities are achievable based on the prevailing traffic volumes along Hammond Pond Parkway. The Project will increase safety throughout the corridor by reducing vehicular speeds and providing a separated facility for bicyclists and pedestrians. This Project is intended to both improve conditions for existing non-vehicular users of the parkway and to attract additional users through the installation of a separated bicycle and pedestrian facility that will fundamentally change the character of this segment of Hammond Pond Parkway. The Project will upgrade the entire corridor to accommodate ADA accessibility needs and improve access to the adjacent conservation areas. The proposed design includes a dedicated shared-use pathway for bicycles and pedestrians along the west (southbound) side of Hammond Pond Parkway that will connect the bicycle lanes along Beacon Street to the Route 9 interchange. The Project will also incorporate a geometric re-design of the intersection of Hammond Pond Parkway/Beacon Street/Hobart Road to upgrade the pedestrian and bicycle facilities. Stormwater drainage will also be evaluated as part of this Project and included in later submissions. An evaluation of the existing catch basins and Hammond Brook culvert will be conducted in further design stages of the Project. This section describes the elements of the proposed design of Hammond Pond Parkway.

4.1. Conceptual Improvement Plan

The proposed concept plan for the Hammond Pond Parkway improvements incorporates complete street principles to address the multi-modal needs for improved mobility throughout the corridor. A road diet will be introduced that reduces the number of travel lanes along Hammond Pond Parkway from four lanes to two lanes. Daily traffic volumes counted along Hammond Pond Parkway through the study area are approximately 18,460 vehicles per day and 1,550 vehicles per hour (both directions) during the peak commuter periods. Based on the *Road Diet Informational Guide*⁴, road diets for existing four lane roadways can work for roadways that experience up to 23,000 vpd. The Institute of Transportation Engineers (ITE) also provide guidance on the implementation of road diets⁵. According to ITE case studies, road diets reduce crashes and travel speeds and improve the flow of traffic while having minimal effects on capacity and traffic diversions on roadways under 20,000 vpd.

Pedestrian and bicyclists' amenities are currently minimal to absent throughout most of this segment of Hammond Pond Parkway. The concept plan shows a new 10 to 12-foot wide shared-use path along the entirety of the west (southbound) side of Hammond Pond Parkway that is intended to improve safety and

⁴ *Road Diet Informational Guide*; Federal Highway Administration; Washington, DC; 2014.

⁵ *Designing Walkable Urban Thoroughfares: A Context Sensitive Approach*; Institute of Transportation Engineers; Washington, DC; 2010.

ADA accessibility by providing pedestrians and bicyclists with a separated facility. In general, the shared-use path will be separated from the roadway by a grass buffer from the roadway to provide additional comfort and safety for all users. In addition to the redesign of Hammond Pond Parkway, the intersection of Hammond Pond Parkway at Beacon Street and Hobart Road will also be reconstructed to improve pedestrian and bicycle facilities.

There may be additional challenges related to design of stormwater management systems and grading-related issues at the southern end of the Project as Hammond Pond Parkway slopes downward toward Route 9. The Project also includes an existing bridge crossing over an existing MBTA right-of-way approximately a quarter-mile south of Beacon Street. No changes to the bridge will be required to accommodate the Project. It is also not expected that there will be any right-of-way issues, as the Project will not encroach beyond the existing roadway layout lines. The following presents a summary of the elements shown in the concept plans in Figures 13 through 17.

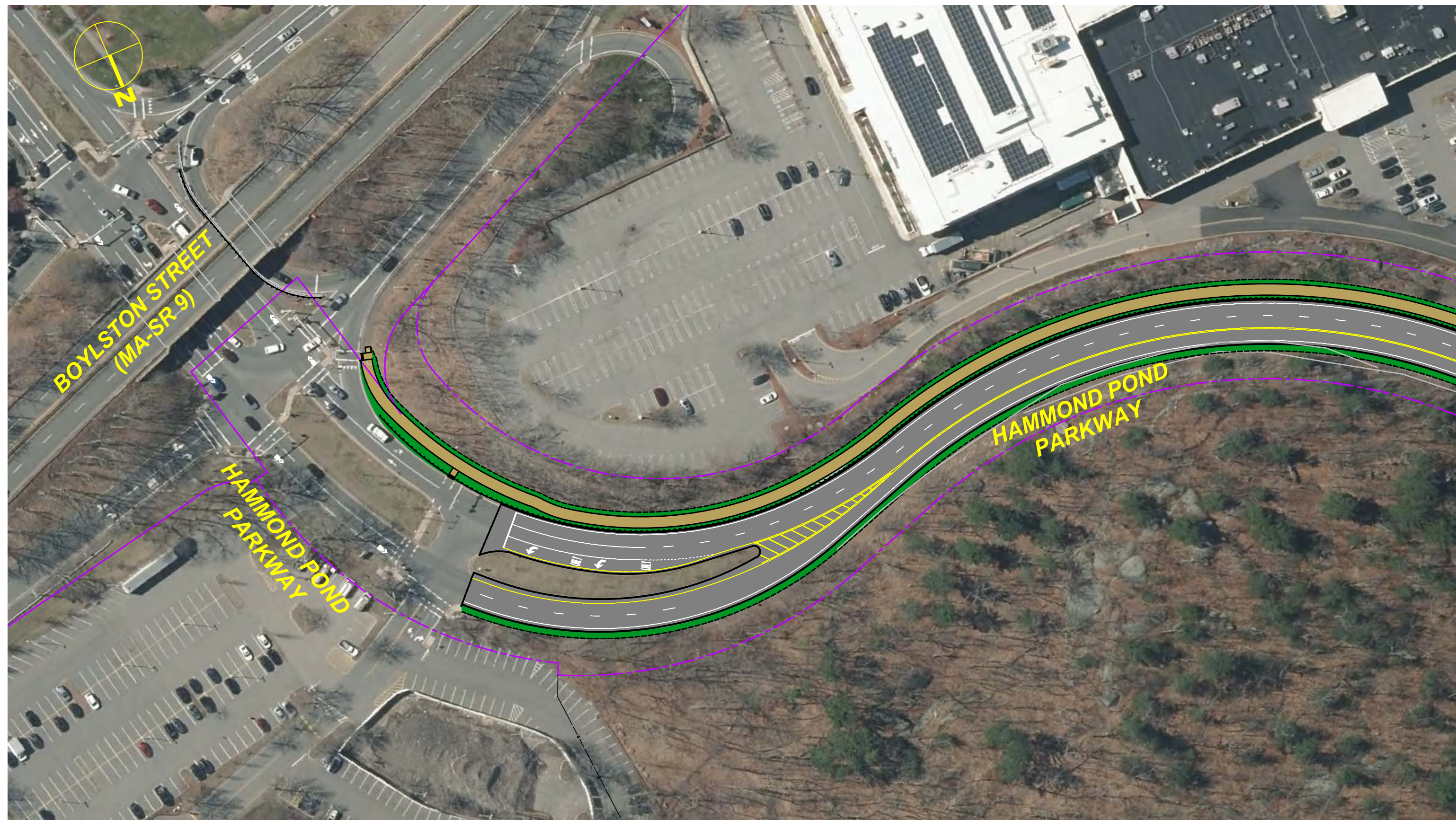
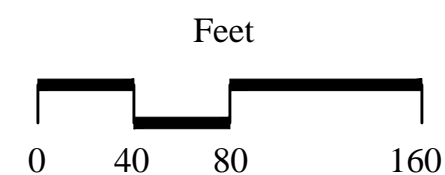


Figure 13
 Conceptual Improvement Plan (1 of 5)
 Hammond Pond Parkway Improvements
 Department of Conservation & Recreation

Conceptual Design



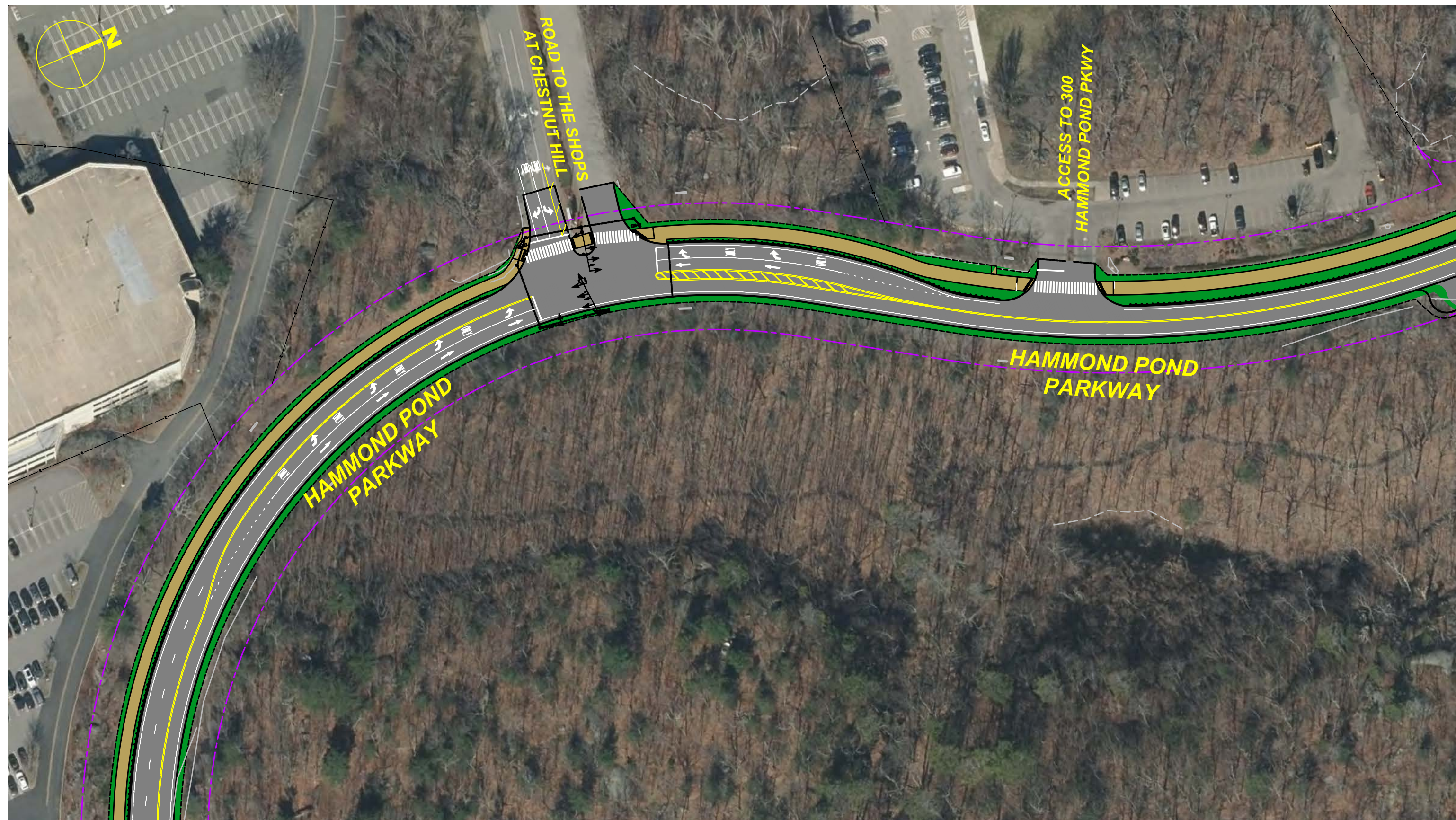


Figure 14
 Conceptual Improvement Plan (2 of 5)
 Hammond Pond Parkway Improvements
 Department of Conservation & Recreation

Conceptual Design

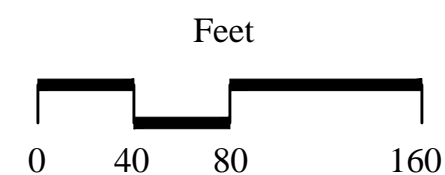
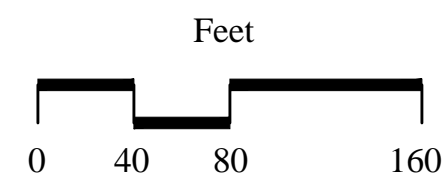




Figure 15
 Conceptual Improvement Plan (3 of 5)
 Hammond Pond Parkway Improvements
 Department of Conservation & Recreation

Conceptual Design



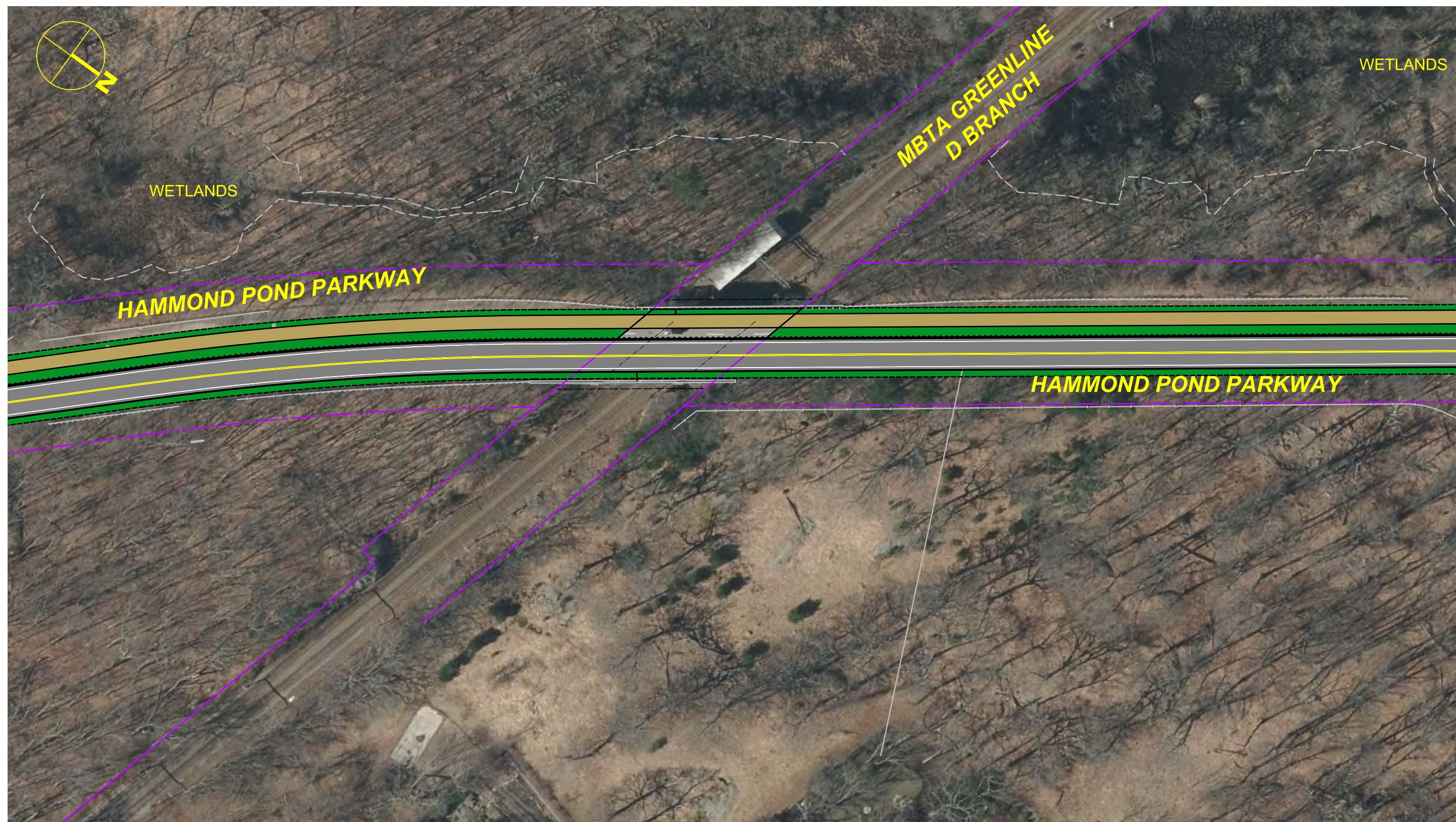


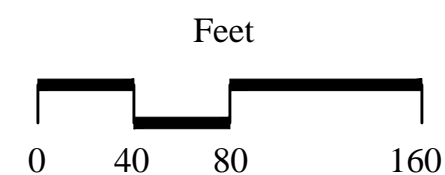
Figure 16
 Conceptual Improvement Plan (4 of 5)
 Hammond Pond Parkway Improvements
 Department of Conservation & Recreation

Conceptual Design



Figure 17
 Conceptual Improvement Plan (5 of 5)
 Hammond Pond Parkway Improvements
 Department of Conservation & Recreation

Conceptual Design



4.1.1. Hammond Pond Parkway at Beacon Street and Hobart Road

The intersection of Hammond Pond Parkway/Beacon Street/Hobart Road will be reconfigured. The intersection will include upgraded crosswalks and will connect the proposed shared-use path along Hammond Pond Parkway to bicycle lanes along Beacon Street. The Hammond Pond Parkway northbound approach will be reduced to a single left-turn lane and a channelized right-turn lane. The Beacon Street westbound approach will generally remain the same as the existing conditions. The Beacon Street eastbound approach will remove the existing channelizing island and consist of a through lane and an exclusive right-turn lane. The removal of the island will provide for better pedestrian and bicycle accessibility and safety. The Hobart Road southbound approach will generally remain the same as the existing conditions. A new crosswalk will be installed along the west leg of Beacon Street and the existing crosswalk across the east leg will be removed. New signal equipment will be installed and an optimal traffic signal timing and phasing plan will be implemented. The intersection improvements are shown in Figure 18.

4.1.2. Hammond Pond Parkway: Beacon Street to 300 Hammond Pond Parkway

Hammond Pond Parkway between Beacon Street and the 300 Hammond Pond Parkway Driveway will consist of a shared-use path, a grass buffer, and two travel lanes separated by a double-yellow centerline. The total length of this segment is approximately 3,100 feet. Parking will be prohibited along this segment of Hammond Pond Parkway. The intersection of Beacon Street at 300 Hammond Pond Parkway will be reconstructed to accommodate the Project. The driveway's lane configuration will remain as two lanes, with the exiting lane placed under stop-sign control. Hammond Pond Parkway at Chestnut Hill Mall Driveway

The intersection of Hammond Pond Parkway/Chestnut Hill Mall Driveway will consist of exclusive left and right-turn lanes along the driveway. This serves as a reduction in overall width by eliminating one of the existing left-turn lanes. The reduction in width will serve pedestrians by providing a shorter and safer crossing. Geometric modifications will be required to provide for the extension of the shared-use path through the intersection including the extension of the median island along the driveway approach to the intersection. The traffic signal equipment will require modifications.

4.1.3. Hammond Pond Parkway: Chestnut Hill Mall Driveway to The Street Driveway

Hammond Pond Parkway between 250 Hammond Pond Parkway and a point approximately 400 feet north of The Street Driveway will consist of a shared-use path, a small grass buffer, and two travel lanes separated by a double-yellow centerline. The total length of this segment is approximately 1,025 feet. The intersection of Hammond Pond Parkway at The Street Driveway will be reconstructed north of the driveway to match existing conditions, with the addition of the shared-use path, which will extend to the Route 9 westbound on-ramp.

4.2. Pedestrian and Bicycle Accessibility

The project will greatly enhance pedestrian and bicycle accessibility along Hammond Pond Parkway by constructing a shared-use path along the west side of the roadway, upgrading all curb ramps to meet ADA requirements, and upgrading and installing crosswalks where needed. Pedestrian access will be improved to provide safe connections to the commercial properties and the conservation areas located along Hammond Pond Parkway. Upgrades to the geometry and traffic signals at Beacon Street and The Mall at Chestnut Hill will be upgraded to include pedestrian phases and shorter crossings.

4.3. Construction and Traffic Management

Hammond Pond Parkway and all access points are expected to remain open during construction. Hammond Pond Parkway will continue to operate with two-way travel and the potential for lane closures throughout construction. Short traffic disruptions are expected to accommodate the contractor's operations.

Pedestrians and bicycles will be protected and detoured as necessary where there are dedicated facilities during construction. There are no existing bicycle or pedestrian facilities north of the 300 Hammond Pond Parkway driveway and no special accommodations will be made through the work zone.

5 Traffic Operations Analysis

To assess the quality of traffic flow, capacity analyses were conducted at the study area intersections for the weekday morning, weekday evening, and Saturday midday peak hours. Analyses were conducted using the Synchro 10 traffic analysis software, which is based on methods defined in the Highway Capacity Manual 2010⁶.

A primary result of capacity analyses is the assignment of a Level of Service (LOS) to traffic facilities under various traffic flow conditions. Six Levels of Services are defined for each type of facility. They are given letter designations from A to F, with LOS A representing the best operating conditions with little delay and LOS F representing the worst, with the most delay.

The average delay per vehicle approaching an intersection is used to quantify the LOS at a particular intersection. The LOS designations are defined below in Table 3. Average delay measures the mean stopped delay experienced by vehicles entering an intersection during the analysis period. Average delay is measured for each individual turning movement that must yield the right of way and for the intersection as a whole, if signalized.

Table 3 Level of Service Designations

Level of Service	Average Delay (seconds/vehicle)	
	Unsignalized	Signalized
A	0.0 - 10.0	0.0 - 10.0
B	>10.0 – 15.0	>10.0 – 20.0
C	>15.0 – 25.0	>20.0 – 35.0
D	>25.0 – 35.0	>35.0 – 55.0
E	>35.0 – 50.0	>55.0 – 80.0
F	>50.0	>80.0

Source: Transportation Research Board, *Highway Capacity Manual*, National Research Council, 2010.

Tables 4 through 6 show the operating conditions of the study intersections during the weekday morning, weekday evening, and Saturday midday peak hours for the following scenarios:

- 2019 Existing Conditions
- 2029 Future Conditions without Improvements
- 2029 Future Conditions with Improvements

⁶ *Highway Capacity Manual* 2010; Transportation Research Board; Washington, DC; 2010.

Table 4 Traffic Operations Analysis Summary – Weekday Morning Peak Hour

	2019 Existing Conditions					2029 Future Conditions without Improvements					2029 Future Conditions with Improvements				
	Delay	LOS	v/c	50th queue	95th queue	Delay	LOS	v/c	50th queue	95th queue	Delay	LOS	v/c	50th queue	95th queue
SIGNALIZED INTERSECTIONS															
Hammond Pond Parkway/Beacon Street/Hobart Road															
Hammond Pond Parkway NBL	47.1	D	0.69	179	239	49.1	D	0.74	191	253	119.4	F	1.13	461	674
Hammond Pond Parkway NBR	1.1	A	0.51	0	0	1.5	A	0.56	0	0	30.7	C	0.90	316	607
Hobart Road SBT	59.8	E	0.75	127	170	62.8	E	0.80	135	190	121.9	F	1.08	262	439
Hobart Road SBR	0.1	A	0.03	0	0	0.1	A	0.04	0	0	0.0	A	0.03	0	0
Beacon Street EBT	213.1	F	1.36	531	699	241.6	F	1.43	574	743	73.3	E	0.98	394	619
Beacon Street EBR	18.3	B	0.47	42	104	19.4	B	0.49	49	113	39.8	D	0.49	124	200
Beacon Street WBL	34.7	C	0.20	53	98	34.9	C	0.22	57	103	63.8	E	0.58	70	127
Beacon Street WBT	20.3	C	0.51	228	317	20.9	C	0.54	245	338	28.7	C	0.62	276	390
Overall	58.4	E				64.4	E				64.3	E			
Hammond Pond Parkway/Mall at Chestnut Hill															
Hammond Pond Parkway NBL	30.2	C	0.07	14	35	30.3	C	0.08	15	37	25.2	C	0.07	11	34
Hammond Pond Parkway NBT	19.4	B	0.90	585	833	25.6	C	0.95	733	1063	15.6	B	0.86	505	1041
Hammond Pond Parkway SBT	14.6	B	0.34	117	157	14.8	B	0.36	125	166	21.6	C	0.52	329	413
Hammond Pond Parkway SBR	-	-	-	-	-	-	-	-	-	-	8.3	A	0.07	9	32
Driveway EBL	38.3	D	0.11	14	28	38.3	D	0.11	16	30	41.5	D	0.20	28	61
Driveway EBR	8.0	A	0.02	0	11	8.0	A	0.02	0	11	6.1	A	0.02	0	11
Overall	18.5	B				22.7	C				17.7	B			
Hammond Pond Parkway/The Street															
Hammond Pond Parkway NBT	2.6	A	0.57	126	128	2.8	A	0.60	146	36	2.4	A	0.50	50	28
Hammond Pond Parkway SBL	2.9	A	0.14	3	9	3.2	A	0.16	4	10	2.6	A	0.13	4	10
Hammond Pond Parkway SBT	1.6	A	0.18	26	40	1.6	A	0.19	28	43	2.5	A	0.35	64	106
Driveway WBL	42.3	D	0.16	10	31	42.4	D	0.17	11	33	42.4	D	0.17	11	33
Driveway WBR	20.1	C	0.14	0	20	19.7	B	0.15	0	21	20.1	C	0.14	0	21
Overall	2.8	A				3.0	A				3.0	A			
UNSIGNALIZED INTERSECTIONS															
Hammond Pond Parkway/300 HPP Driveway															
Hammond Pond Parkway NBL	8.7	A	0.03	-	3	8.8	A	0.03	-	3	8.7	A	0.02	-	0
Hammond Pond Parkway NBT	0.4	A	0.00	-	0	0.6	A	0.00	-	0	0.0	A	0.00	-	0
Hammond Pond Parkway SBT	0.0	A	0.00	-	0	0.0	A	0.00	-	0	0.0	A	0.00	-	0
Hammond Pond Parkway SBR	0.0	A	0.00	-	0	0.0	A	0.00	-	0	0.0	A	0.00	-	0
Driveway EBL	49.6	E	0.44	-	48	50.0	F	0.65	-	98	86.0	F	0.36	-	26
Driveway EBR	10.6	B	0.09	-	8	0.0	A	0.00	-	0	12.6	B	0.07	-	5
Overall	2.2	A				3.5	A				1.3	A			

Table 5 Traffic Operations Analysis Summary – Weekday Evening Peak Hour

	2019 Existing Conditions					2029 Future Conditions without Improvements					2029 Future Conditions with Improvements				
	Delay	LOS	v/c	50th queue	95th queue	Delay	LOS	v/c	50th queue	95th queue	Delay	LOS	v/c	50th queue	95th queue
SIGNALIZED INTERSECTIONS															
Hammond Pond Parkway/Beacon Street/Hobart Road															
Hammond Pond Parkway NBL	47.9	D	0.71	187	247	49.4	D	0.75	198	261	131.6	F	1.16	489	703
Hammond Pond Parkway NBR	0.5	A	0.29	0	0	0.5	A	0.32	0	0	4.5	A	0.49	13	75
Hobart Road SBT	81.9	F	0.95	167	247	93.8	F	1.00	179	269	186.3	F	1.28	392	587
Hobart Road SBR	0.1	A	0.05	0	0	0.1	A	0.05	0	0	0.1	A	0.04	0	0
Beacon Street EBT	118.7	F	1.10	374	536	137.8	F	1.16	409	573	77.7	E	0.97	321	525
Beacon Street EBR	14.4	B	0.61	36	112	16.1	B	0.63	47	127	10.3	B	0.40	66	100
Beacon Street WBL	37.6	D	0.37	102	166	38.0	D	0.39	108	174	79.9	E	0.83	129	239
Beacon Street WBT	20.4	C	0.52	231	322	21.0	C	0.54	248	342	32.2	C	0.68	293	417
Overall	45.9	D				51.2	D				75.2	E			
Hammond Pond Parkway/Mall at Chestnut Hill															
Hammond Pond Parkway NBL	33.4	C	0.22	35	66	33.5	C	0.23	36	68	37.6	D	0.27	33	74
Hammond Pond Parkway NBT	9.0	A	0.70	222	279	9.7	A	0.73	248	312	9.0	A	0.67	204	384
Hammond Pond Parkway SBT	16.0	B	0.54	164	261	16.6	B	0.57	184	280	25.6	C	0.82	355	647
Hammond Pond Parkway SBR	-	-	-	-	-	-	-	-	-	-	0.8	A	0.11	1	12
Driveway EBL	36.6	D	0.27	39	64	37.7	D	0.29	42	67	40.5	D	0.47	71	127
Driveway EBR	5.8	A	0.16	5	32	7.3	A	0.17	11	39	6.7	A	0.17	6	39
Overall	14.4	B				15.1	B				17.5	B			
Hammond Pond Parkway/The Street															
Hammond Pond Parkway NBT	11.9	B	0.40	80	207	6.8	A	0.43	80	110	6.1	A	0.42	79	91
Hammond Pond Parkway SBL	4.9	A	0.24	13	32	5.3	A	0.26	14	34	5.2	A	0.26	14	33
Hammond Pond Parkway SBT	4.1	A	0.31	60	102	4.5	A	0.32	65	11	7.7	A	0.60	166	322
Driveway WBL	49.0	D	0.60	68	116	49.1	D	0.61	71	121	49.1	D	0.61	69	119
Driveway WBR	11.2	B	0.40	0	44	10.9	B	0.41	0	45	11.1	B	0.40	0	46
Overall	10.7	B				8.6	A				10.3	B			
UNSIGNALIZED INTERSECTIONS															
Hammond Pond Parkway/300 HPP Driveway															
Hammond Pond Parkway NBL	9.6	A	0.01	-	0	9.8	A	0.01	-	0	9.8	A	0.01	-	0
Hammond Pond Parkway NBT	0.1	A	0.00	-	0	0.1	A	0.00	-	0	0.0	A	0.00	-	0
Hammond Pond Parkway SBT	0.0	A	0.00	-	0	0.0	A	0.00	-	0	0.0	A	0.00	-	0
Hammond Pond Parkway SBR	0.0	A	0.00	-	0	0.0	A	0.00	-	0	0.0	A	0.00	-	0
Driveway EBL	35.3	E	0.09	-	8	40.6	E	0.13	-	15	82.5	F	0.25	-	23
Driveway EBR	11.3	B	0.01	-	0	11.6	B	0.02	-	3	16.0	C	0.03	-	3
Overall	0.3	A				0.5	A				0.7	A			

Table 6 Traffic Operations Analysis Summary – Saturday Midday Peak Hour

Movement	2019 Existing Conditions					2029 Future Conditions without Improvements					2029 Future Conditions with Improvements				
	Delay	LOS	v/c	50th queue	95th queue	Delay	LOS	v/c	50th queue	95th queue	Delay	LOS	v/c	50th queue	95th queue
SIGNALIZED INTERSECTIONS															
Hammond Pond Parkway/Beacon Street/Hobart Road															
Hammond Pond Parkway NBL	45.1	D	0.63	160	215	46.1	D	0.66	170	226	61.1	E	0.92	304	596
Hammond Pond Parkway NBR	0.3	A	0.24	0	0	0.4	A	0.25	0	0	3.0	A	0.39	0	50
Hobart Road SBT	54.2	D	0.63	106	145	55.9	E	0.67	113	153	62.3	E	0.82	169	349
Hobart Road SBR	0.0	A	0.02	0	0	0.0	A	0.02	0	0	0.0	A	0.02	0	0
Beacon Street EBT	48.3	D	0.62	173	249	50.8	D	0.68	185	265	55.9	E	0.77	157	261
Beacon Street EBR	8.7	A	0.60	0	63	8.4	A	0.61	0	64	47.9	D	0.78	210	422
Beacon Street WBL	36.3	D	0.30	82	139	36.6	D	0.32	87	145	57.3	E	0.66	91	164
Beacon Street WBT	17.0	B	0.33	134	193	17.5	B	0.36	143	206	27.9	C	0.51	166	245
Overall	27.8	C				28.6	C				43.0	D			
Hammond Pond Parkway/Mall at Chestnut Hill															
Hammond Pond Parkway NBL	30.3	C	0.33	50	110	32.3	C	0.38	57	118	30.1	C	0.36	41	122
Hammond Pond Parkway NBT	7.2	A	0.57	138	176	7.3	A	0.59	151	191	9.5	A	0.60	129	295
Hammond Pond Parkway SBT	14.9	B	0.53	111	188	15.3	B	0.54	127	202	28.1	C	0.78	175	358
Hammond Pond Parkway SBR	-	-	-	-	-	-	-	-	-	-	17.4	B	0.56	39	140
Driveway EBL	32.1	C	0.28	35	73	34.1	C	0.31	41	77	28.5	C	0.39	53	140
Driveway EBR	3.8	A	0.16	0	29	3.9	A	0.18	0	29	3.2	A	0.15	0	30
Overall	13.8	B				14.3	B				18.2	B			
Hammond Pond Parkway/The Street															
Hammond Pond Parkway NBT	6.2	A	0.37	39	52	6.7	A	0.40	56	71	6.2	A	0.38	53	69
Hammond Pond Parkway SBL	5.5	A	0.25	17	40	6.0	A	0.28	18	43	5.3	A	0.27	17	39
Hammond Pond Parkway SBT	4.2	A	0.21	40	72	4.5	A	0.22	44	78	5.6	A	0.41	91	176
Driveway WBL	49.3	D	0.66	86	139	49.4	D	0.67	91	145	49.0	D	0.62	75	127
Driveway WBR	9.9	A	0.41	0	45	9.6	A	0.41	0	46	10.6	B	0.48	0	52
Overall	9.8	A				10.1	B				9.7	A			

The following summarizes the traffic operations analysis:

Hammond Pond Parkway at Beacon Street and Hobart Road

The intersection of Hammond Pond Parkway at Beacon Street and Hobart Road currently operates at an overall LOS E during the weekday morning peak hour, LOS D during the weekday evening peak hour and LOS C during the Saturday midday peak hour. Beacon Street and Hammond Pond Parkway are both used heavily during the commuter periods and some approaches are currently operating over capacity, with high levels of delay and queuing. The Beacon Street eastbound movement operates at LOS F, with traffic volumes at its operating capacity.

The intersection geometry will be modified and one of the northbound left-turn lanes along the Hammond Pond Parkway approach will be eliminated, consistent with the receiving lanes along Beacon Street westbound, west of the intersection. An optimal traffic signal timing and phasing plan will also be implemented at the intersection. The Project will not provide additional capacity at the intersection but will enhance the pedestrian and bicycle connectivity and safety. The intersection is expected to operate at an overall LOS E during the weekday morning and evening peak hours and LOS D during the Saturday midday peak hour. The Hammond Pond Parkway northbound left-turn movement is expected to operate at or near its operating capacity during the commuter peak hours due to the reduction in travel lanes. The Beacon Street eastbound approach is expected to improve, but still operate at or near its capacity.

Hammond Pond Parkway/The Mall at Chestnut Hill Driveway

This intersection currently operates at an overall LOS B during all three analysis peak hours. The Project will reduce the number of lanes along the eastbound driveway approach by eliminating a left-turn lane and will also reduce the number of lanes along Hammond Pond Parkway by eliminating one lane of travel from each approach. The Project will also upgrade all curb ramps, pedestrian signal equipment, and crosswalks at the intersection. With implementation of the Project, the intersection is expected to continue to operate at an overall LOS B during all three analysis periods, with all approaches operating under capacity.

Hammond Pond Parkway/The Street Driveway

This intersection currently operates at an overall LOS A during the weekday morning peak hour and LOS B during the weekday evening and Saturday midday peak hours. Signal upgrades and pedestrian improvements will be implemented at this intersection as part of the Project. The Project is expected to have minimal impact on traffic operations at this intersection. The overall LOS is not expected to change from existing conditions.

Hammond Pond Parkway at 300 Hammond Pond Parkway

This intersection currently operates at an overall LOS A during the weekday morning and evening peak hours, with minimal delay along Hammond Pond Parkway. The driveway approach operates at LOS E during the peak hours and is expected to operate at LOS F in the future. The driveway approach operates under capacity and experiences delays due to the high traffic volume along Hammond Pond Parkway, which is typical of a minor driveway that intersects a major roadway.

6 Conclusions

Hammond Pond Parkway is one of DCR's integral transportation corridors that travels through Chestnut Hill in the City of Newton and Town of Brookline. The corridor was selected by the DCR to implement complete street principles that encourage multi-modal travel. The parkway primarily serves motor vehicles and has substandard accommodations for bicyclists and pedestrians. The DCR looks to improve pedestrian and bicycle travel along Hammond Pond Parkway to provide a better balance for all modes of transportation. The Project will reconstruct the roadway to reduce the cross section dedicated for vehicle travel and construct a shared-use path to significantly enhance both pedestrian and bicycle travel. The Project will also upgrade all existing crosswalks, curb ramps, and traffic signal equipment within the study area. The signalized intersection of Hammond Pond Parkway at Beacon Street and Hobart Road will be reconfigured to shorten pedestrian crossings and provide optimal phasing for all users.

Further, the DCR is currently coordinating with the City of Newton to address their needs that were identified in the Newton Leads 2040, A Transportation Strategy for Newton planning study. That study identified Hammond Pond Parkway as a corridor for improvements to active transportation modes (walking and bicycling) and as a candidate for a road diet. The prevailing traffic volumes and vehicular speeds along Hammond Pond Parkway indicate that the segment between Route 9 and Beacon Street is an ideal candidate for a road diet and the construction of a separated shared-use path.

Based on the results of the technical analysis, the improvements can be implemented with little impact to vehicular operations. The intersection of Hammond Pond Parkway at Beacon Street and Hobart Road will be reconfigured to reduce the number of approach lanes along the parkway. The reduction in lanes will remove some operating capacity from the intersection and will improve both pedestrian and bicycle safety at the intersection by shortening crossing lengths and providing defined facilities for both modes of transportation.

The Project will also improve safety for all modes of transportation by reducing vehicular speeds on Hammond Pond Parkway. The posted speed limit is currently 30 mph; however, observed speeds are significantly higher, with the 85th percentile speed in excess of 45 mph. By reducing the overall cross section of the roadway, it is expected that vehicular speeds will be lowered.

The proposed design of Hammond Pond Parkway is essential to meeting DCR's and the City of Newton's plans for improvements to multi-modal transportation and implementing complete street principles. It will greatly improve regional connectivity for pedestrians and bicyclists to provide a better balance between all modes of transportation in the area.



Traffic Design Report Appendix

Hammond Pond Parkway Improvements, Phase I, Beacon Street to Route 9
Newton, Massachusetts

September 2019 (Rev. 1 October 2020; Rev. 2 February 2021)

Prepared for:

Commonwealth of Massachusetts Department of Conservation and Recreation
251 Causeway Street
Boston, MA, 02114

Prepared by:

BSC Group, Inc.
803 Summer Street
Boston, MA

Appendix A: Traffic Count Data

Hammond Pond Parkway (NB)
south of Beacon Street
City, State: Newton, MA
Client: BSC/ S.Offei-Addo



196789 A NB Volume
Site Code: TBD

Start	03/12/19		Wed		Thu		Fri		Sat		Sun		Mon		Average Day	
Time	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.
12:00	7	164	8	135	9	146	12	154	26	139	20	118	14	121	14	140
12:15	13	134	6	138	7	123	4	144	15	161	16	135	8	125	10	137
12:30	3	127	8	124	1	155	7	150	7	149	12	115	4	128	6	135
12:45	3	125	3	109	4	120	10	142	6	167	10	131	3	120	6	131
01:00	1	142	4	130	2	130	6	128	13	170	8	127	6	144	6	139
01:15	4	129	3	140	2	120	2	143	8	156	7	142	4	122	4	136
01:30	2	153	1	137	2	163	3	181	4	156	8	181	3	160	3	162
01:45	2	124	1	138	2	145	2	153	4	166	9	132	2	129	3	141
02:00	1	155	1	142	1	185	2	188	7	170	4	158	2	141	3	163
02:15	1	197	3	192	2	177	1	184	6	169	6	140	2	149	3	173
02:30	1	155	2	169	1	189	0	235	2	191	4	183	1	166	2	184
02:45	2	167	0	151	0	164	2	191	7	162	4	154	3	155	3	163
03:00	1	187	1	171	2	204	3	163	5	146	4	144	2	152	3	167
03:15	4	142	2	150	2	173	4	196	4	165	3	138	3	162	3	161
03:30	3	159	4	157	3	192	3	183	1	161	4	146	3	144	3	163
03:45	2	173	3	194	3	202	4	188	4	133	3	139	7	155	4	169
04:00	7	193	1	158	1	182	3	192	5	141	2	139	5	147	3	165
04:15	8	174	7	155	7	172	8	200	7	155	4	127	9	149	7	162
04:30	16	138	9	179	11	152	12	167	5	165	2	126	15	159	10	155
04:45	12	162	13	187	14	176	20	163	11	155	3	146	18	157	13	164
05:00	13	166	17	174	10	182	12	182	4	155	3	130	9	159	10	164
05:15	18	216	15	212	22	176	15	213	11	177	4	133	18	186	15	188
05:30	40	190	44	186	39	222	44	181	15	148	6	135	40	158	33	174
05:45	44	179	43	183	43	176	38	161	12	130	8	110	41	144	33	155
06:00	59	172	49	186	55	175	47	185	18	127	10	156	46	161	41	166
06:15	87	186	94	186	97	175	83	167	21	127	14	109	84	136	69	155
06:30	134	149	122	146	154	143	132	152	30	143	24	98	112	140	101	139
06:45	140	142	181	157	155	144	159	120	29	134	29	88	166	113	123	128
07:00	217	151	237	126	230	126	185	137	35	114	13	82	204	96	160	119
07:15	235	126	226	117	227	140	229	138	34	138	18	93	250	138	174	127
07:30	291	118	288	103	282	135	241	121	47	128	37	72	273	108	208	112
07:45	244	96	292	123	290	123	266	106	63	100	31	53	244	73	204	96
08:00	281	88	239	107	250	112	241	113	54	126	26	67	219	82	187	99
08:15	287	92	256	81	262	77	255	120	82	100	32	70	257	73	204	88
08:30	269	86	279	79	283	80	270	107	97	87	46	59	253	73	214	82
08:45	274	72	255	72	288	74	210	84	84	65	60	53	239	39	201	66
09:00	193	67	192	91	192	90	158	89	89	72	58	58	199	77	154	78
09:15	163	61	191	71	175	84	186	85	103	71	82	47	158	60	151	68
09:30	187	44	184	49	184	59	174	68	110	68	72	50	157	44	153	55
09:45	154	43	158	46	150	40	133	49	92	67	65	19	110	35	123	43
10:00	130	32	125	44	112	50	144	56	85	58	74	31	115	28	112	43
10:15	123	26	156	38	151	42	131	52	115	67	82	31	117	36	125	42
10:30	120	27	130	21	142	41	131	63	129	45	93	22	113	27	123	35
10:45	127	36	138	33	113	37	128	44	136	61	93	20	129	20	123	36
11:00	105	62	125	57	102	63	136	30	114	28	93	32	98	55	110	47
11:15	119	24	131	24	128	18	133	38	135	31	106	43	117	18	124	28
11:30	124	9	134	23	121	14	149	36	159	32	129	11	134	14	136	20
11:45	119	9	125	10	131	13	143	22	158	21	124	9	133	5	133	13
Total	4390	5769	4506	5801	4464	6081	4281	6364	2208	5797	1565	4702	4149	5183	3653	5676
Day Total	10159		10307		10545		10645		8005		6267		9332		9329	
% Splits	43.2%	56.8%	43.7%	56.3%	42.3%	57.7%	40.2%	59.8%	27.6%	72.4%	25.0%	75.0%	44.5%	55.5%	39.2%	60.8%
Peak	08:00	05:15	07:30	05:15	07:45	03:00	07:45	02:00	11:00	01:45	11:00	02:00	07:30	04:30	07:45	04:45
Vol.	1111	757	1075	767	1085	771	1032	798	566	696	452	635	993	661	809	690
P.H.F.	0.968	0.876	0.920	0.904	0.935	0.945	0.956	0.849	0.890	0.911	0.876	0.867	0.909	0.888	0.945	0.918

Hammond Pond Parkway (NB)
south of Beacon Street
City, State: Newton, MA
Client: BSC/ S.Offei-Addo



46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

196789 A NB Volume
Site Code: TBD

Start Time	A.M.	NB		P.M.	Tue 03/12/19									
12:00	7			164										
12:15	13			134										
12:30	3			127										
12:45	3	26		125	550									
01:00	1			142										
01:15	4			129										
01:30	2			153										
01:45	2	9		124	548									
02:00	1			155										
02:15	1			197										
02:30	1			155										
02:45	2	5		167	674									
03:00	1			187										
03:15	4			142										
03:30	3			159										
03:45	2	10		173	661									
04:00	7			193										
04:15	8			174										
04:30	16			138										
04:45	12	43		162	667									
05:00	13			166										
05:15	18			216										
05:30	40			190										
05:45	44	115		179	751									
06:00	59			172										
06:15	87			186										
06:30	134			149										
06:45	140	420		142	649									
07:00	217			151										
07:15	235			126										
07:30	291			118										
07:45	244	987		96	491									
08:00	281			88										
08:15	287			92										
08:30	269			86										
08:45	274	1111		72	338									
09:00	193			67										
09:15	163			61										
09:30	187			44										
09:45	154	697		43	215									
10:00	130			32										
10:15	123			26										
10:30	120			27										
10:45	127	500		36	121									
11:00	105			62										
11:15	119			24										
11:30	124			9										
11:45	119	467		9	104									
Total	4390			5769										
Percent		100.0%		0.0%	0.0%									
Day Total		10159												
Peak	08:00	-	05:15	-	-	-	-	-	-	-	-	-	-	-
Vol.	1111	-	757	-	-	-	-	-	-	-	-	-	-	-
P.H.F.	0.968		0.876											

Hammond Pond Parkway (NB)
south of Beacon Street
City, State: Newton, MA
Client: BSC/ S.Offei-Addo



46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

196789 A NB Volume
Site Code: TBD

Start Time	A.M.	NB		P.M.	Wed 03/13/19									
12:00	8			135										
12:15	6			138										
12:30	8			124										
12:45	3	25		109	506									
01:00	4			130										
01:15	3			140										
01:30	1			137										
01:45	1	9		138	545									
02:00	1			142										
02:15	3			192										
02:30	2			169										
02:45	0	6		151	654									
03:00	1			171										
03:15	2			150										
03:30	4			157										
03:45	3	10		194	672									
04:00	1			158										
04:15	7			155										
04:30	9			179										
04:45	13	30		187	679									
05:00	17			174										
05:15	15			212										
05:30	44			186										
05:45	43	119		183	755									
06:00	49			186										
06:15	94			186										
06:30	122			146										
06:45	181	446		157	675									
07:00	237			126										
07:15	226			117										
07:30	288			103										
07:45	292	1043		123	469									
08:00	239			107										
08:15	256			81										
08:30	279			79										
08:45	255	1029		72	339									
09:00	192			91										
09:15	191			71										
09:30	184			49										
09:45	158	725		46	257									
10:00	125			44										
10:15	156			38										
10:30	130			21										
10:45	138	549		33	136									
11:00	125			57										
11:15	131			24										
11:30	134			23										
11:45	125	515		10	114									
Total	4506			5801										
Percent				100.0%	0.0%									
Day Total		10307												
Peak	07:30	-	05:15	-	-	-	-	-	-	-	-	-	-	-
Vol.	1075	-	767	-	-	-	-	-	-	-	-	-	-	-
P.H.F.	0.920		0.904											

Hammond Pond Parkway (NB)
south of Beacon Street
City, State: Newton, MA
Client: BSC/ S.Offei-Addo



46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdilic.com

196789 A NB Volume
Site Code: TBD

Start Time	A.M.	NB		P.M.	Thu 03/14/19									
12:00	9			146										
12:15	7			123										
12:30	1			155										
12:45	4	21		120	544									
01:00	2			130										
01:15	2			120										
01:30	2			163										
01:45	2	8		145	558									
02:00	1			185										
02:15	2			177										
02:30	1			189										
02:45	0	4		164	715									
03:00	2			204										
03:15	2			173										
03:30	3			192										
03:45	3	10		202	771									
04:00	1			182										
04:15	7			172										
04:30	11			152										
04:45	14	33		176	682									
05:00	10			182										
05:15	22			176										
05:30	39			222										
05:45	43	114		176	756									
06:00	55			175										
06:15	97			175										
06:30	154			143										
06:45	155	461		144	637									
07:00	230			126										
07:15	227			140										
07:30	282			135										
07:45	290	1029		123	524									
08:00	250			112										
08:15	262			77										
08:30	283			80										
08:45	288	1083		74	343									
09:00	192			90										
09:15	175			84										
09:30	184			59										
09:45	150	701		40	273									
10:00	112			50										
10:15	151			42										
10:30	142			41										
10:45	113	518		37	170									
11:00	102			63										
11:15	128			18										
11:30	121			14										
11:45	131	482		13	108									
Total	4464			6081										
Percent				100.0%	0.0%									
Day Total		10545												
Peak	07:45	-	03:00	-	-	-	-	-	-	-	-	-	-	-
Vol.	1085	-	771	-	-	-	-	-	-	-	-	-	-	-
P.H.F.	0.935		0.945											

Hammond Pond Parkway (NB)
south of Beacon Street
City, State: Newton, MA
Client: BSC/ S.Offei-Addo



46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdilc.com

196789 A NB Volume
Site Code: TBD

Start Time	A.M.	NB		P.M.	Fri 03/15/19									
12:00	12			154										
12:15	4			144										
12:30	7			150										
12:45	10	33		142	590									
01:00	6			128										
01:15	2			143										
01:30	3			181										
01:45	2	13		153	605									
02:00	2			188										
02:15	1			184										
02:30	0			235										
02:45	2	5		191	798									
03:00	3			163										
03:15	4			196										
03:30	3			183										
03:45	4	14		188	730									
04:00	3			192										
04:15	8			200										
04:30	12			167										
04:45	20	43		163	722									
05:00	12			182										
05:15	15			213										
05:30	44			181										
05:45	38	109		161	737									
06:00	47			185										
06:15	83			167										
06:30	132			152										
06:45	159	421		120	624									
07:00	185			137										
07:15	229			138										
07:30	241			121										
07:45	266	921		106	502									
08:00	241			113										
08:15	255			120										
08:30	270			107										
08:45	210	976		84	424									
09:00	158			89										
09:15	186			85										
09:30	174			68										
09:45	133	651		49	291									
10:00	144			56										
10:15	131			52										
10:30	131			63										
10:45	128	534		44	215									
11:00	136			30										
11:15	133			38										
11:30	149			36										
11:45	143	561		22	126									
Total	4281			6364										
Percent				100.0%		0.0%				0.0%				
Day Total		10645												
Peak	07:45	-	02:00	-	-	-	-	-	-	-	-	-	-	-
Vol.	1032	-	798	-	-	-	-	-	-	-	-	-	-	-
P.H.F.	0.956		0.849											

Hammond Pond Parkway (NB)
south of Beacon Street
City, State: Newton, MA
Client: BSC/ S.Offei-Addo



46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdilic.com

196789 A NB Volume
Site Code: TBD

Start Time	A.M.	NB		P.M.	Sat 03/16/19									
12:00	26			139										
12:15	15			161										
12:30	7			149										
12:45	6	54		167	616									
01:00	13			170										
01:15	8			156										
01:30	4			156										
01:45	4	29		166	648									
02:00	7			170										
02:15	6			169										
02:30	2			191										
02:45	7	22		162	692									
03:00	5			146										
03:15	4			165										
03:30	1			161										
03:45	4	14		133	605									
04:00	5			141										
04:15	7			155										
04:30	5			165										
04:45	11	28		155	616									
05:00	4			155										
05:15	11			177										
05:30	15			148										
05:45	12	42		130	610									
06:00	18			127										
06:15	21			127										
06:30	30			143										
06:45	29	98		134	531									
07:00	35			114										
07:15	34			138										
07:30	47			128										
07:45	63	179		100	480									
08:00	54			126										
08:15	82			100										
08:30	97			87										
08:45	84	317		65	378									
09:00	89			72										
09:15	103			71										
09:30	110			68										
09:45	92	394		67	278									
10:00	85			58										
10:15	115			67										
10:30	129			45										
10:45	136	465		61	231									
11:00	114			28										
11:15	135			31										
11:30	159			32										
11:45	158	566		21	112									
Total	2208			5797										
Percent				100.0%		0.0%				0.0%				
Day Total		8005												
Peak	11:00	-	01:45	-	-	-	-	-	-	-	-	-	-	-
Vol.	566	-	696	-	-	-	-	-	-	-	-	-	-	-
P.H.F.	0.890		0.911											

Hammond Pond Parkway (NB)
south of Beacon Street
City, State: Newton, MA
Client: BSC/ S.Offei-Addo



46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

196789 A NB Volume
Site Code: TBD

Start Time	A.M.	NB		P.M.	Sun 03/17/19									
12:00	20			118										
12:15	16			135										
12:30	12			115										
12:45	10	58		131	499									
01:00	8			127										
01:15	7			142										
01:30	8			181										
01:45	9	32		132	582									
02:00	4			158										
02:15	6			140										
02:30	4			183										
02:45	4	18		154	635									
03:00	4			144										
03:15	3			138										
03:30	4			146										
03:45	3	14		139	567									
04:00	2			139										
04:15	4			127										
04:30	2			126										
04:45	3	11		146	538									
05:00	3			130										
05:15	4			133										
05:30	6			135										
05:45	8	21		110	508									
06:00	10			156										
06:15	14			109										
06:30	24			98										
06:45	29	77		88	451									
07:00	13			82										
07:15	18			93										
07:30	37			72										
07:45	31	99		53	300									
08:00	26			67										
08:15	32			70										
08:30	46			59										
08:45	60	164		53	249									
09:00	58			58										
09:15	82			47										
09:30	72			50										
09:45	65	277		19	174									
10:00	74			31										
10:15	82			31										
10:30	93			22										
10:45	93	342		20	104									
11:00	93			32										
11:15	106			43										
11:30	129			11										
11:45	124	452		9	95									
Total	1565			4702										
Percent		100.0%		0.0%										
Day Total		6267												
Peak	11:00	-	02:00	-	-	-	-	-	-	-	-	-	-	-
Vol.	452	-	635	-	-	-	-	-	-	-	-	-	-	-
P.H.F.	0.876		0.867											

Hammond Pond Parkway (NB)
south of Beacon Street
City, State: Newton, MA
Client: BSC/ S.Offei-Addo



46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdilic.com

196789 A NB Volume
Site Code: TBD

Start Time	A.M.	NB		P.M.	Mon 03/18/19									
12:00	14			121										
12:15	8			125										
12:30	4			128										
12:45	3	29		120	494									
01:00	6			144										
01:15	4			122										
01:30	3			160										
01:45	2	15		129	555									
02:00	2			141										
02:15	2			149										
02:30	1			166										
02:45	3	8		155	611									
03:00	2			152										
03:15	3			162										
03:30	3			144										
03:45	7	15		155	613									
04:00	5			147										
04:15	9			149										
04:30	15			159										
04:45	18	47		157	612									
05:00	9			159										
05:15	18			186										
05:30	40			158										
05:45	41	108		144	647									
06:00	46			161										
06:15	84			136										
06:30	112			140										
06:45	166	408		113	550									
07:00	204			96										
07:15	250			138										
07:30	273			108										
07:45	244	971		73	415									
08:00	219			82										
08:15	257			73										
08:30	253			73										
08:45	239	968		39	267									
09:00	199			77										
09:15	158			60										
09:30	157			44										
09:45	110	624		35	216									
10:00	115			28										
10:15	117			36										
10:30	113			27										
10:45	129	474		20	111									
11:00	98			55										
11:15	117			18										
11:30	134			14										
11:45	133	482		5	92									
Total	4149			5183										
Percent				100.0%		0.0%			0.0%					
Day Total		9332												
Peak	07:30	-	04:30	-	-	-	-	-	-	-	-	-	-	-
Vol.	993	-	661	-	-	-	-	-	-	-	-	-	-	-
P.H.F.	0.909		0.888											

Hammond Pond Parkway (NB)
south of Beacon Street
City, State: Newton, MA
Client: BSC/ S.Offei-Addo



46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

196789 A NB Class
Site Code: TBD

NB

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
03/12/1														
9	0	22	3	0	1	0	0	0	0	0	0	0	0	26
01:00	0	8	0	0	1	0	0	0	0	0	0	0	0	9
02:00	0	5	0	0	0	0	0	0	0	0	0	0	0	5
03:00	0	8	0	0	2	0	0	0	0	0	0	0	0	10
04:00	0	36	6	0	1	0	0	0	0	0	0	0	0	43
05:00	0	95	17	0	2	1	0	0	0	0	0	0	0	115
06:00	0	367	48	1	4	0	0	0	0	0	0	0	0	420
07:00	2	906	63	1	13	2	0	0	0	0	0	0	0	987
08:00	2	1016	75	4	11	1	1	1	0	0	0	0	0	1111
09:00	0	632	57	1	7	0	0	0	0	0	0	0	0	697
10:00	0	440	46	2	11	1	0	0	0	0	0	0	0	500
11:00	0	415	48	1	3	0	0	0	0	0	0	0	0	467
12 PM	0	492	45	0	11	1	0	1	0	0	0	0	0	550
13:00	0	501	38	0	8	0	0	1	0	0	0	0	0	548
14:00	0	585	74	5	8	0	0	1	0	1	0	0	0	674
15:00	0	599	55	1	6	0	0	0	0	0	0	0	0	661
16:00	1	612	50	1	2	0	0	0	0	0	0	0	1	667
17:00	1	707	38	1	3	1	0	0	0	0	0	0	0	751
18:00	3	616	26	0	4	0	0	0	0	0	0	0	0	649
19:00	0	473	16	0	0	1	0	1	0	0	0	0	0	491
20:00	0	330	8	0	0	0	0	0	0	0	0	0	0	338
21:00	0	204	11	0	0	0	0	0	0	0	0	0	0	215
22:00	0	117	4	0	0	0	0	0	0	0	0	0	0	121
23:00	0	94	7	0	3	0	0	0	0	0	0	0	0	104
Total	9	9280	735	18	101	8	1	5	0	1	0	0	1	10159
Percent	0.1%	91.3%	7.2%	0.2%	1.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak	07:00	08:00	08:00	08:00	07:00	07:00	08:00	08:00						08:00
Vol.	2	1016	75	4	13	2	1	1						1111
PM Peak	18:00	17:00	14:00	14:00	12:00	12:00		12:00		14:00			16:00	17:00
Vol.	3	707	74	5	11	1		1		1			1	751

Hammond Pond Parkway (NB)
south of Beacon Street
City, State: Newton, MA
Client: BSC/ S.Offei-Addo



46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

196789 A NB Class
Site Code: TBD

NB

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
03/13/1														
9	0	22	2	0	1	0	0	0	0	0	0	0	0	25
01:00	0	8	0	0	1	0	0	0	0	0	0	0	0	9
02:00	0	6	0	0	0	0	0	0	0	0	0	0	0	6
03:00	0	9	1	0	0	0	0	0	0	0	0	0	0	10
04:00	0	27	2	0	1	0	0	0	0	0	0	0	0	30
05:00	0	104	13	0	2	0	0	0	0	0	0	0	0	119
06:00	1	394	44	0	6	1	0	0	0	0	0	0	0	446
07:00	1	964	61	3	12	2	0	0	0	0	0	0	0	1043
08:00	3	956	50	4	9	2	0	4	0	0	0	1	0	1029
09:00	2	674	39	3	3	3	0	1	0	0	0	0	0	725
10:00	1	489	55	0	3	1	0	0	0	0	0	0	0	549
11:00	1	463	44	1	4	2	0	0	0	0	0	0	0	515
12 PM	1	444	52	2	7	0	0	0	0	0	0	0	0	506
13:00	0	495	46	0	3	1	0	0	0	0	0	0	0	545
14:00	1	580	60	1	11	0	0	1	0	0	0	0	0	654
15:00	0	621	43	1	7	0	0	0	0	0	0	0	0	672
16:00	2	620	48	1	6	1	1	0	0	0	0	0	0	679
17:00	0	718	32	1	3	0	0	0	0	0	1	0	0	755
18:00	2	653	18	0	1	0	0	0	0	1	0	0	0	675
19:00	3	448	17	0	1	0	0	0	0	0	0	0	0	469
20:00	1	328	10	0	0	0	0	0	0	0	0	0	0	339
21:00	0	245	11	0	1	0	0	0	0	0	0	0	0	257
22:00	0	129	6	0	1	0	0	0	0	0	0	0	0	136
23:00	0	105	6	0	3	0	0	0	0	0	0	0	0	114
Total	19	9502	660	17	86	13	1	6	0	1	1	1	0	10307
Percent	0.2%	92.2%	6.4%	0.2%	0.8%	0.1%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak	08:00	07:00	07:00	08:00	07:00	09:00		08:00				08:00		07:00
Vol.	3	964	61	4	12	3		4				1		1043
PM Peak	19:00	17:00	14:00	12:00	14:00	13:00	16:00	14:00		18:00	17:00			17:00
Vol.	3	718	60	2	11	1	1	1		1	1			755

Hammond Pond Parkway (NB)
south of Beacon Street
City, State: Newton, MA
Client: BSC/ S.Offei-Addo



46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

196789 A NB Class
Site Code: TBD

NB

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
03/14/1														
9	0	18	2	0	1	0	0	0	0	0	0	0	0	21
01:00	0	7	1	0	0	0	0	0	0	0	0	0	0	8
02:00	0	4	0	0	0	0	0	0	0	0	0	0	0	4
03:00	0	9	1	0	0	0	0	0	0	0	0	0	0	10
04:00	0	29	4	0	0	0	0	0	0	0	0	0	0	33
05:00	0	96	14	1	1	1	0	1	0	0	0	0	0	114
06:00	0	393	58	1	6	2	0	0	1	0	0	0	0	461
07:00	0	931	71	3	17	1	0	4	1	1	0	0	0	1029
08:00	0	1001	65	3	10	2	0	2	0	0	0	0	0	1083
09:00	1	643	53	0	3	1	0	0	0	0	0	0	0	701
10:00	1	440	62	0	14	0	0	1	0	0	0	0	0	518
11:00	3	434	42	1	2	0	0	0	0	0	0	0	0	482
12 PM	2	496	32	1	8	1	0	3	1	0	0	0	0	544
13:00	1	501	46	2	6	2	0	0	0	0	0	0	0	558
14:00	0	639	69	0	7	0	0	0	0	0	0	0	0	715
15:00	3	700	58	1	6	0	1	1	0	1	0	0	0	771
16:00	2	626	49	0	3	0	0	2	0	0	0	0	0	682
17:00	1	696	51	0	8	0	0	0	0	0	0	0	0	756
18:00	0	609	24	0	3	0	0	0	0	0	1	0	0	637
19:00	0	500	21	0	2	1	0	0	0	0	0	0	0	524
20:00	0	331	9	0	2	1	0	0	0	0	0	0	0	343
21:00	0	269	3	0	1	0	0	0	0	0	0	0	0	273
22:00	0	164	4	0	2	0	0	0	0	0	0	0	0	170
23:00	0	101	4	0	3	0	0	0	0	0	0	0	0	108
Total	14	9637	743	13	105	12	1	14	3	2	1	0	0	10545
Percent	0.1%	91.4%	7.0%	0.1%	1.0%	0.1%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak	11:00	08:00	07:00	07:00	07:00	06:00		07:00	06:00	07:00				08:00
Vol.	3	1001	71	3	17	2		4	1	1				1083
PM Peak	15:00	15:00	14:00	13:00	12:00	13:00	15:00	12:00	12:00	15:00	18:00			15:00
Vol.	3	700	69	2	8	2	1	3	1	1	1			771

Hammond Pond Parkway (NB)
south of Beacon Street
City, State: Newton, MA
Client: BSC/ S.Offei-Addo



46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

196789 A NB Class
Site Code: TBD

NB

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
03/15/19	0	31	2	0	0	0	0	0	0	0	0	0	0	33
01:00	0	11	0	0	2	0	0	0	0	0	0	0	0	13
02:00	0	4	1	0	0	0	0	0	0	0	0	0	0	5
03:00	0	9	3	0	2	0	0	0	0	0	0	0	0	14
04:00	0	34	7	0	2	0	0	0	0	0	0	0	0	43
05:00	0	87	20	0	2	0	0	0	0	0	0	0	0	109
06:00	1	354	58	1	5	1	0	1	0	0	0	0	0	421
07:00	7	826	66	6	14	0	0	1	0	1	0	0	0	921
08:00	2	892	65	3	13	1	0	0	0	0	0	0	0	976
09:00	1	584	58	2	5	1	0	0	0	0	0	0	0	651
10:00	0	478	44	1	9	1	0	1	0	0	0	0	0	534
11:00	2	511	41	1	6	0	0	0	0	0	0	0	0	561
12 PM	0	540	36	1	9	2	0	1	0	0	0	0	1	590
13:00	1	550	44	1	9	0	0	0	0	0	0	0	0	605
14:00	4	701	79	0	8	4	0	1	0	1	0	0	0	798
15:00	1	668	54	2	3	0	0	1	0	0	1	0	0	730
16:00	3	672	40	1	5	1	0	0	0	0	0	0	0	722
17:00	1	693	37	0	5	0	0	0	0	0	1	0	0	737
18:00	0	588	30	1	4	0	0	0	0	1	0	0	0	624
19:00	1	477	22	0	2	0	0	0	0	0	0	0	0	502
20:00	0	409	15	0	0	0	0	0	0	0	0	0	0	424
21:00	0	279	10	0	2	0	0	0	0	0	0	0	0	291
22:00	0	207	7	0	1	0	0	0	0	0	0	0	0	215
23:00	0	119	4	0	3	0	0	0	0	0	0	0	0	126
Total	24	9724	743	20	111	11	0	6	0	3	2	0	1	10645
Percent	0.2%	91.3%	7.0%	0.2%	1.0%	0.1%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak	07:00	08:00	07:00	07:00	07:00	06:00		06:00		07:00				08:00
Vol.	7	892	66	6	14	1		1		1				976
PM Peak	14:00	14:00	14:00	15:00	12:00	14:00		12:00		14:00	15:00		12:00	14:00
Vol.	4	701	79	2	9	4		1		1	1		1	798

Hammond Pond Parkway (NB)
south of Beacon Street
City, State: Newton, MA
Client: BSC/ S.Offei-Addo



PRECISION
D A T A
INDUSTRIES, LLC

46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

196789 A NB Class
Site Code: TBD

NB

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
03/16/19	0	52	0	0	2	0	0	0	0	0	0	0	0	54
01:00	0	28	1	0	0	0	0	0	0	0	0	0	0	29
02:00	0	19	2	0	1	0	0	0	0	0	0	0	0	22
03:00	0	13	1	0	0	0	0	0	0	0	0	0	0	14
04:00	0	25	3	0	0	0	0	0	0	0	0	0	0	28
05:00	0	30	10	0	2	0	0	0	0	0	0	0	0	42
06:00	0	90	7	0	1	0	0	0	0	0	0	0	0	98
07:00	0	163	14	0	2	0	0	0	0	0	0	0	0	179
08:00	0	299	15	1	2	0	0	0	0	0	0	0	0	317
09:00	0	361	29	0	1	1	0	2	0	0	0	0	0	394
10:00	0	433	28	2	0	1	0	0	0	0	1	0	0	465
11:00	0	532	29	0	3	2	0	0	0	0	0	0	0	566
12 PM	1	583	25	0	5	1	0	1	0	0	0	0	0	616
13:00	0	619	27	0	1	0	0	1	0	0	0	0	0	648
14:00	3	653	31	0	3	0	0	2	0	0	0	0	0	692
15:00	0	574	29	1	1	0	0	0	0	0	0	0	0	605
16:00	0	595	18	0	2	1	0	0	0	0	0	0	0	616
17:00	2	584	19	0	4	0	0	1	0	0	0	0	0	610
18:00	4	506	20	0	1	0	0	0	0	0	0	0	0	531
19:00	1	456	22	0	1	0	0	0	0	0	0	0	0	480
20:00	0	372	6	0	0	0	0	0	0	0	0	0	0	378
21:00	0	273	5	0	0	0	0	0	0	0	0	0	0	278
22:00	1	214	13	0	3	0	0	0	0	0	0	0	0	231
23:00	0	109	1	0	2	0	0	0	0	0	0	0	0	112
Total	12	7583	355	4	37	6	0	7	0	0	1	0	0	8005
Percent	0.1%	94.7%	4.4%	0.0%	0.5%	0.1%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak		11:00	09:00	10:00	11:00	11:00		09:00			10:00			11:00
Vol.		532	29	2	3	2		2			1			566
PM Peak	18:00	14:00	14:00	15:00	12:00	12:00		14:00						14:00
Vol.	4	653	31	1	5	1		2						692

Hammond Pond Parkway (NB)
south of Beacon Street
City, State: Newton, MA
Client: BSC/ S.Offei-Addo



PRECISION
D A T A
INDUSTRIES, LLC

46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdilc.com

196789 A NB Class
Site Code: TBD

NB

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
03/17/1														
9	0	57	1	0	0	0	0	0	0	0	0	0	0	58
01:00	0	31	1	0	0	0	0	0	0	0	0	0	0	32
02:00	0	18	0	0	0	0	0	0	0	0	0	0	0	18
03:00	0	13	1	0	0	0	0	0	0	0	0	0	0	14
04:00	0	9	2	0	0	0	0	0	0	0	0	0	0	11
05:00	0	21	0	0	0	0	0	0	0	0	0	0	0	21
06:00	0	70	7	0	0	0	0	0	0	0	0	0	0	77
07:00	0	87	10	0	2	0	0	0	0	0	0	0	0	99
08:00	0	157	7	0	0	0	0	0	0	0	0	0	0	164
09:00	0	259	18	0	0	0	0	0	0	0	0	0	0	277
10:00	0	334	8	0	0	0	0	0	0	0	0	0	0	342
11:00	0	426	22	0	4	0	0	0	0	0	0	0	0	452
12 PM	0	472	25	0	1	1	0	0	0	0	0	0	0	499
13:00	0	546	32	0	2	1	0	0	0	0	1	0	0	582
14:00	1	612	20	0	2	0	0	0	0	0	0	0	0	635
15:00	2	545	17	0	3	0	0	0	0	0	0	0	0	567
16:00	1	521	15	0	1	0	0	0	0	0	0	0	0	538
17:00	2	490	13	0	3	0	0	0	0	0	0	0	0	508
18:00	0	439	9	0	3	0	0	0	0	0	0	0	0	451
19:00	0	293	6	0	1	0	0	0	0	0	0	0	0	300
20:00	0	238	9	0	2	0	0	0	0	0	0	0	0	249
21:00	0	168	6	0	0	0	0	0	0	0	0	0	0	174
22:00	0	100	4	0	0	0	0	0	0	0	0	0	0	104
23:00	0	89	4	0	2	0	0	0	0	0	0	0	0	95
Total	6	5995	237	0	26	2	0	0	0	0	1	0	0	6267
Percent	0.1%	95.7%	3.8%	0.0%	0.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak Vol.		11:00	11:00		11:00									11:00
PM Peak Vol.		426	22		4									452
PM Peak Vol.	15:00	14:00	13:00		15:00	12:00					13:00			14:00
	2	612	32		3	1					1			635

Hammond Pond Parkway (NB)
south of Beacon Street
City, State: Newton, MA
Client: BSC/ S.Offei-Addo



46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

196789 A NB Class
Site Code: TBD

NB

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
03/18/19	0	26	2	0	1	0	0	0	0	0	0	0	0	29
01:00	0	14	1	0	0	0	0	0	0	0	0	0	0	15
02:00	0	6	1	0	1	0	0	0	0	0	0	0	0	8
03:00	0	14	1	0	0	0	0	0	0	0	0	0	0	15
04:00	0	43	4	0	0	0	0	0	0	0	0	0	0	47
05:00	0	87	18	0	2	1	0	0	0	0	0	0	0	108
06:00	1	358	41	0	8	0	0	0	0	0	0	0	0	408
07:00	4	887	65	3	10	1	0	1	0	0	0	0	0	971
08:00	2	912	44	2	7	1	0	0	0	0	0	0	0	968
09:00	1	582	36	1	4	0	0	0	0	0	0	0	0	624
10:00	0	429	35	0	8	0	0	1	1	0	0	0	0	474
11:00	1	437	39	1	2	0	0	1	1	0	0	0	0	482
12 PM	0	448	35	1	7	2	0	0	0	1	0	0	0	494
13:00	0	512	35	1	7	0	0	0	0	0	0	0	0	555
14:00	0	564	39	1	7	0	0	0	0	0	0	0	0	611
15:00	1	559	43	0	7	1	1	0	0	0	1	0	0	613
16:00	1	571	36	1	2	1	0	0	0	0	0	0	0	612
17:00	3	609	26	1	3	2	0	0	0	2	0	1	0	647
18:00	2	518	25	0	3	2	0	0	0	0	0	0	0	550
19:00	2	404	8	0	1	0	0	0	0	0	0	0	0	415
20:00	0	253	9	0	5	0	0	0	0	0	0	0	0	267
21:00	0	210	5	0	1	0	0	0	0	0	0	0	0	216
22:00	0	106	4	0	1	0	0	0	0	0	0	0	0	111
23:00	0	85	6	0	1	0	0	0	0	0	0	0	0	92
Total	18	8634	558	12	88	11	1	3	2	3	1	1	0	9332
Percent	0.2%	92.5%	6.0%	0.1%	0.9%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak	07:00	08:00	07:00	07:00	07:00	05:00		07:00	10:00					07:00
Vol.	4	912	65	3	10	1		1	1					971
PM Peak	17:00	17:00	15:00	12:00	12:00	12:00	15:00			17:00	15:00	17:00		17:00
Vol.	3	609	43	1	7	2	1			2	1	1		647

Hammond Pond Parkway (NB)
south of Beacon Street
City, State: Newton, MA
Client: BSC/ S.Offei-Addo



46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

196789 A NB Speed
Site Code: TBD

NB	Start Time	1 14	15 19	20 24	25 29	30 34	35 39	40 44	45 49	50 54	55 59	60 64	65 69	70 9999	Total	85th Perce	Avera (Mean
03/12/																	
19	0	0	0	0	3	10	8	4	1	0	0	0	0	0	26	45	40
01:00	0	0	0	0	1	2	4	0	1	1	0	0	0	0	9	52	43
02:00	0	0	0	1	0	0	2	1	0	1	0	0	0	0	5	55	43
03:00	0	0	0	0	2	0	5	1	1	0	0	1	0	0	10	51	44
04:00	0	0	0	0	3	13	7	13	3	3	1	0	0	0	43	49	44
05:00	0	0	0	1	7	25	34	33	11	2	2	0	0	0	115	48	43
06:00	0	0	0	1	11	85	178	107	36	2	0	0	0	0	420	47	43
07:00	0	0	0	2	60	304	418	160	33	8	2	0	0	0	987	45	41
08:00	0	0	0	1	49	290	523	194	45	7	2	0	0	0	1111	46	42
09:00	0	2	0	5	33	167	274	170	42	4	0	0	0	0	697	47	42
10:00	0	1	6	15	23	105	230	97	19	2	2	0	0	0	500	46	41
11:00	0	2	1	2	13	99	215	101	26	5	1	2	0	0	467	47	42
12 PM	0	0	0	1	25	112	224	140	39	8	0	1	0	0	550	47	43
13:00	0	0	0	0	15	109	230	161	31	2	0	0	0	0	548	47	43
14:00	0	0	0	0	18	120	319	175	35	6	1	0	0	0	674	47	43
15:00	0	0	0	1	21	129	267	201	37	3	2	0	0	0	661	47	43
16:00	0	0	0	0	11	93	305	201	43	11	1	2	0	0	667	47	44
17:00	0	0	0	0	18	135	305	241	49	3	0	0	0	0	751	47	43
18:00	0	0	0	1	32	196	287	107	23	3	0	0	0	0	649	45	41
19:00	0	0	0	3	26	122	228	82	24	6	0	0	0	0	491	46	42
20:00	0	0	0	0	30	94	137	59	17	1	0	0	0	0	338	46	41
21:00	0	0	0	0	14	59	91	37	9	5	0	0	0	0	215	46	42
22:00	0	0	0	0	4	36	50	22	8	1	0	0	0	0	121	46	42
23:00	0	0	0	2	8	31	35	20	6	2	0	0	0	0	104	47	41
Total	0	5	7	36	427	2336	4376	2327	539	86	14	6	0	0	10159		
%	0.0%	0.0%	0.1%	0.4%	4.2%	23.0%	43.1%	22.9%	5.3%	0.8%	0.1%	0.1%	0.0%				
AM																	
Peak	09:00	10:00	10:00	07:00	07:00	08:00	08:00	08:00	07:00	05:00	11:00				08:00		
Vol.	2	6	15	60	304	523	194	45	8	2	2				1111		
PM																	
Peak			19:00	18:00	18:00	14:00	17:00	17:00	16:00	15:00	16:00				17:00		
Vol.			3	32	196	319	241	49	11	2	2				751		

Stats
15th Percentile : 36 MPH
50th Percentile : 41 MPH
85th Percentile : 47 MPH
95th Percentile : 50 MPH

Mean Speed(Average) : 42 MPH
10 MPH Pace Speed : 35-44 MPH
Number in Pace : 6712
Percent in Pace : 66.1%
Number of Vehicles > 30 MPH : 10026
Percent of Vehicles > 30 MPH : 98.7%

Hammond Pond Parkway (NB)
south of Beacon Street
City, State: Newton, MA
Client: BSC/ S.Offei-Addo



46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

196789 A NB Speed
Site Code: TBD

NB	Start Time	14	15	19	20	24	25	29	30	34	35	39	40	44	45	49	50	54	55	59	60	64	65	69	70	9999	Total	85th Perce	Avera (Mean
	03/13/19	0	0	0	0	0	4	4	12	3	4	4	12	3	1	1	1	1	1	1	0	0	0	0	0	0	25	46	41
	01:00	0	0	0	0	1	0	2	3	1	1	1	1	1	1	1	1	1	1	1	0	0	0	0	0	9	52	43	
	02:00	0	0	0	0	0	0	1	1	3	0	0	1	1	0	1	0	1	0	0	1	0	0	0	0	6	59	47	
	03:00	0	0	0	0	0	2	2	3	1	1	1	1	1	1	0	0	1	1	0	0	0	0	0	0	10	51	42	
	04:00	0	0	0	0	0	4	8	7	10	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	30	47	41	
	05:00	0	0	0	0	0	6	33	36	30	12	2	0	0	0	0	0	0	2	0	0	0	0	0	0	119	48	43	
	06:00	0	0	0	0	0	28	110	198	83	26	1	0	0	0	0	0	1	1	0	0	0	0	0	0	446	46	42	
	07:00	0	0	0	2	61	406	427	124	19	4	0	0	0	0	0	0	19	4	0	0	0	0	0	0	1043	43	40	
	08:00	0	0	0	4	76	314	453	157	22	3	0	0	0	0	0	0	22	3	0	0	0	0	0	0	1029	44	41	
	09:00	0	0	1	8	40	194	325	119	31	7	0	0	0	0	0	0	31	7	0	0	0	0	0	0	725	46	41	
	10:00	2	1	0	2	14	135	233	126	32	2	2	2	0	0	0	0	32	2	2	0	0	0	0	0	549	47	42	
	11:00	0	0	0	0	12	103	231	126	34	5	2	1	1	1	1	1	5	2	2	1	1	1	1	1	515	47	43	
	12 PM	0	0	0	0	7	111	237	114	32	3	1	1	0	0	0	0	32	3	1	1	1	1	1	0	506	47	43	
	13:00	0	0	0	0	21	140	239	114	21	10	0	0	0	0	0	0	21	10	0	0	0	0	0	0	545	46	42	
	14:00	0	0	0	2	31	138	287	150	35	7	3	0	1	0	0	0	287	150	7	3	0	0	1	1	654	47	42	
	15:00	0	0	0	2	25	187	284	148	24	2	0	0	0	0	0	0	24	2	0	0	0	0	0	0	672	46	42	
	16:00	0	0	0	2	25	181	315	120	26	9	1	0	0	0	0	0	315	120	9	1	0	0	0	0	679	46	42	
	17:00	0	0	0	0	32	200	343	146	29	5	0	0	0	0	0	0	200	343	5	0	0	0	0	0	755	46	42	
	18:00	0	0	0	2	49	201	298	103	17	4	1	0	0	0	0	0	298	103	4	1	0	0	0	0	675	45	41	
	19:00	0	0	0	0	24	151	175	97	21	0	1	0	0	0	0	0	175	97	0	1	0	0	0	0	469	46	41	
	20:00	0	0	0	1	15	98	130	71	20	1	3	0	0	0	0	0	130	71	1	3	0	0	0	0	339	47	42	
	21:00	0	0	0	1	24	66	89	55	18	2	2	0	0	0	0	0	89	55	2	2	0	0	0	0	257	47	42	
	22:00	0	0	0	3	10	44	35	32	10	2	0	0	0	0	0	0	35	32	2	0	0	0	0	0	136	47	41	
	23:00	0	0	0	1	5	37	38	24	7	2	0	0	0	0	0	0	38	24	2	0	0	0	0	0	114	47	42	
	Total	2	1	1	31	515	2866	4399	1957	440	74	17	2	2	10307														
	%	0.0%	0.0%	0.0%	0.3%	5.0%	27.8%	42.7%	19.0%	4.3%	0.7%	0.2%	0.0%	0.0%															
	AM Peak	10:00	10:00	09:00	09:00	08:00	07:00	08:00	08:00	11:00	09:00	10:00	11:00	11:00	07:00														
	Vol.	2	1	1	8	76	406	453	157	34	7	2	1	1	1043														
	PM Peak				22:00	18:00	18:00	17:00	14:00	14:00	13:00	14:00	12:00	14:00	17:00														
	Vol.				3	49	201	343	150	35	10	3	1	1	755														

Stats
15th Percentile : 35 MPH
50th Percentile : 40 MPH
85th Percentile : 46 MPH
95th Percentile : 49 MPH

Mean Speed(Average) : 42 MPH
10 MPH Pace Speed : 35-44 MPH
Number in Pace : 7265
Percent in Pace : 70.5%
Number of Vehicles > 30 MPH : 10169
Percent of Vehicles > 30 MPH : 98.7%

Hammond Pond Parkway (NB)
south of Beacon Street
City, State: Newton, MA
Client: BSC/ S.Offei-Addo



46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

196789 A NB Speed
Site Code: TBD

NB	Start Time	14	15	20	25	30	35	40	45	50	55	60	65	70	Total	85th Perce	Avera (Mean
		14	19	24	29	34	39	44	49	54	59	64	69	9999			
03/14/																	
19	0	0	0	1	4	7	8	1	0	0	0	0	0	0	21	42	38
01:00	0	0	0	0	0	1	5	1	1	1	0	0	0	0	8	47	43
02:00	0	0	0	0	1	1	1	1	0	0	0	0	0	0	4	46	39
03:00	0	0	0	0	1	5	2	1	0	1	0	0	0	0	10	46	41
04:00	0	0	0	0	3	11	3	7	6	3	0	0	0	0	33	52	44
05:00	0	0	0	0	5	23	36	31	13	4	2	0	0	0	114	49	44
06:00	0	0	0	2	16	99	198	108	32	5	1	0	0	0	461	47	43
07:00	0	0	0	3	58	315	450	168	31	3	1	0	0	0	1029	45	41
08:00	0	1	6	15	97	302	458	169	28	7	0	0	0	0	1083	45	41
09:00	0	0	0	3	21	167	334	141	27	8	0	0	0	0	701	46	42
10:00	0	1	1	2	36	133	199	111	27	5	2	1	0	0	518	47	42
11:00	0	0	0	1	14	75	227	133	28	3	1	0	0	0	482	47	43
12 PM	0	0	0	4	15	145	216	135	23	5	0	1	0	0	544	47	42
13:00	0	0	0	1	11	135	242	133	30	6	0	0	0	0	558	47	42
14:00	0	0	0	1	26	166	308	164	42	7	1	0	0	0	715	47	42
15:00	0	0	0	1	34	192	328	166	39	10	1	0	0	0	771	47	42
16:00	0	0	0	1	36	187	280	147	26	5	0	0	0	0	682	46	42
17:00	0	0	0	0	33	179	332	165	44	3	0	0	0	0	756	46	42
18:00	2	0	1	2	37	162	241	152	34	5	1	0	0	0	637	47	42
19:00	0	0	0	2	33	141	226	90	27	5	0	0	0	0	524	46	41
20:00	0	0	0	0	10	84	147	88	12	0	1	0	0	1	343	46	42
21:00	0	1	0	2	15	84	99	53	15	3	0	1	0	0	273	46	41
22:00	0	0	0	3	9	44	63	33	14	4	0	0	0	0	170	47	42
23:00	0	0	0	0	6	23	43	25	9	1	1	0	0	0	108	47	43
Total	2	3	8	44	521	2681	4446	2223	508	93	12	3	1	1	10545		
%	0.0%	0.0%	0.1%	0.4%	4.9%	25.4%	42.2%	21.1%	4.8%	0.9%	0.1%	0.0%	0.0%	0.0%			
AM Peak		08:00	08:00	08:00	08:00	07:00	08:00	08:00	06:00	09:00	05:00	10:00			08:00		
Vol.		1	6	15	97	315	458	169	32	8	2	1			1083		
PM Peak	18:00	21:00	18:00	12:00	18:00	15:00	17:00	15:00	17:00	15:00	14:00	12:00	20:00		15:00		
Vol.	2	1	1	4	37	192	332	166	44	10	1	1	1		771		

Stats

15th Percentile :	35 MPH
50th Percentile :	41 MPH
85th Percentile :	46 MPH
95th Percentile :	49 MPH

Mean Speed(Average) :	42 MPH
10 MPH Pace Speed :	35-44 MPH
Number in Pace :	7127
Percent in Pace :	67.6%
Number of Vehicles > 30 MPH :	10384
Percent of Vehicles > 30 MPH :	98.5%

Hammond Pond Parkway (NB)
south of Beacon Street
City, State: Newton, MA
Client: BSC/ S.Offei-Addo



46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdilc.com

196789 A NB Speed
Site Code: TBD

NB	Start Time	14	19	24	29	34	39	44	49	54	59	64	69	70 9999	Total	85th Perce	Avera (Mean
03/15/19	0	0	0	1	4	10	11	4	2	1	0	0	0	0	33	46	40
01:00	0	0	0	0	0	1	3	4	3	2	0	0	0	0	13	54	48
02:00	0	0	0	1	1	1	1	0	1	0	0	0	0	0	5	50	38
03:00	0	0	0	0	3	1	5	2	3	0	0	0	0	0	14	50	42
04:00	0	0	0	0	2	9	9	10	9	2	2	0	0	0	43	52	45
05:00	0	0	0	0	1	13	28	44	13	7	3	0	0	0	109	51	46
06:00	0	0	0	0	20	92	149	120	31	8	1	0	0	0	421	48	43
07:00	0	0	0	7	47	246	417	164	27	11	2	0	0	0	921	46	41
08:00	1	7	15	26	69	307	393	129	23	6	0	0	0	0	976	44	40
09:00	0	0	0	3	10	143	310	154	26	4	1	0	0	0	651	46	42
10:00	0	0	0	1	18	154	226	110	23	2	0	0	0	0	534	46	42
11:00	0	0	0	1	20	157	234	115	27	5	2	0	0	0	561	46	42
12 PM	0	0	0	2	26	147	247	130	38	0	0	0	0	0	590	47	42
13:00	0	0	1	0	27	157	257	122	28	12	1	0	0	0	605	46	42
14:00	0	0	0	0	25	201	351	163	51	4	3	0	0	0	798	47	42
15:00	0	0	0	1	18	178	332	159	36	5	1	0	0	0	730	46	42
16:00	0	0	0	3	19	150	339	162	43	4	2	0	0	0	722	47	42
17:00	0	0	0	5	26	206	333	133	25	8	1	0	0	0	737	46	42
18:00	0	0	0	3	32	175	288	103	20	1	1	1	0	0	624	45	41
19:00	0	0	0	2	29	116	207	122	20	4	2	0	0	0	502	46	42
20:00	0	0	0	2	41	136	157	75	9	4	0	0	0	0	424	45	41
21:00	0	0	0	1	14	81	119	56	15	5	0	0	0	0	291	46	42
22:00	0	0	0	1	25	85	60	32	10	2	0	0	0	0	215	45	40
23:00	0	0	0	0	14	42	48	14	6	2	0	0	0	0	126	45	40
Total	1	7	16	60	491	2808	4524	2127	489	99	22	1	0	0	10645		
%	0.0%	0.1%	0.2%	0.6%	4.6%	26.4%	42.5%	20.0%	4.6%	0.9%	0.2%	0.0%	0.0%				
AM Peak	08:00	08:00	08:00	08:00	08:00	08:00	07:00	07:00	06:00	07:00	05:00				08:00		
Vol.	1	7	15	26	69	307	417	164	31	11	3				976		
PM Peak			13:00	17:00	20:00	17:00	14:00	14:00	14:00	13:00	14:00	18:00			14:00		
Vol.			1	5	41	206	351	163	51	12	3	1			798		

Stats
15th Percentile : 35 MPH
50th Percentile : 41 MPH
85th Percentile : 46 MPH
95th Percentile : 49 MPH

Mean Speed(Average) : 42 MPH
10 MPH Pace Speed : 35-44 MPH
Number in Pace : 7332
Percent in Pace : 68.9%
Number of Vehicles > 30 MPH : 10463
Percent of Vehicles > 30 MPH : 98.3%

Hammond Pond Parkway (NB)
south of Beacon Street
City, State: Newton, MA
Client: BSC/ S.Offei-Addo



46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

196789 A NB Speed
Site Code: TBD

NB	Start Time	1 14	15 19	20 24	25 29	30 34	35 39	40 44	45 49	50 54	55 59	60 64	65 69	70 9999	Total	85th Perce	Avera (Mean
03/16/																	
19	0	1	0	2	4	12	18	11	4	2	0	0	0	0	54	48	41
01:00	0	0	0	3	1	8	9	4	3	0	1	0	0	0	29	48	41
02:00	0	0	0	1	3	7	6	3	1	0	0	1	0	0	22	46	41
03:00	0	0	0	0	0	2	6	4	1	1	0	0	0	0	14	48	45
04:00	0	0	0	0	0	7	8	9	4	0	0	0	0	0	28	48	44
05:00	0	0	0	0	0	6	11	14	8	2	1	0	0	0	42	51	46
06:00	0	0	0	2	6	24	36	16	7	6	1	0	0	0	98	48	43
07:00	0	0	0	1	6	34	64	50	18	4	2	0	0	0	179	48	44
08:00	0	0	0	0	9	61	139	83	22	3	0	0	0	0	317	47	43
09:00	0	0	0	1	7	92	157	95	31	8	3	0	0	0	394	48	43
10:00	0	0	0	0	6	88	188	137	35	10	0	1	0	0	465	48	44
11:00	0	0	0	1	9	102	245	167	35	4	3	0	0	0	566	47	43
12 PM	0	0	0	0	10	132	292	142	34	5	1	0	0	0	616	47	43
13:00	0	0	0	1	8	115	293	175	48	7	1	0	0	0	648	47	43
14:00	0	0	0	1	15	115	335	168	46	9	2	1	0	0	692	47	43
15:00	0	0	0	0	25	125	255	151	35	14	0	0	0	0	605	47	43
16:00	0	0	0	1	18	130	259	165	35	6	2	0	0	0	616	47	43
17:00	0	0	0	3	27	146	275	122	34	2	1	0	0	0	610	46	42
18:00	0	0	1	6	34	159	223	89	15	4	0	0	0	0	531	45	41
19:00	0	1	0	2	29	139	220	76	11	1	1	0	0	0	480	45	41
20:00	0	0	0	5	33	117	151	54	15	2	0	1	0	0	378	45	41
21:00	0	0	0	0	21	92	109	45	9	1	0	1	0	0	278	45	41
22:00	0	1	2	3	20	76	78	35	15	1	0	0	0	0	231	46	40
23:00	0	0	0	0	13	26	46	20	1	5	1	0	0	0	112	46	42
Total	0	3	3	33	304	1815	3423	1835	467	97	20	5	0	0	8005		
%	0.0%	0.0%	0.0%	0.4%	3.8%	22.7%	42.8%	22.9%	5.8%	1.2%	0.2%	0.1%	0.0%				
AM																	
Peak	00:00			01:00	08:00	11:00	11:00	10:00	10:00	09:00	02:00				11:00		
Vol.	1			3	9	102	245	167	35	10	3	1			566		
PM																	
Peak	19:00	22:00	18:00	18:00	18:00	14:00	13:00	13:00	15:00	14:00	14:00				14:00		
Vol.	1	2	6	34	159	335	175	48	14	2	1				692		

Stats
15th Percentile : 36 MPH
50th Percentile : 41 MPH
85th Percentile : 47 MPH
95th Percentile : 51 MPH

Mean Speed(Average) : 42 MPH
10 MPH Pace Speed : 40-49 MPH
Number in Pace : 5258
Percent in Pace : 65.7%
Number of Vehicles > 30 MPH : 7905
Percent of Vehicles > 30 MPH : 98.8%

Hammond Pond Parkway (NB)
south of Beacon Street
City, State: Newton, MA
Client: BSC/ S.Offei-Addo



46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdilc.com

196789 A NB Speed
Site Code: TBD

NB	Start Time	14	15	20	25	30	35	40	45	50	55	60	65	70	Total	85th Perce	Avera (Mean
		14	19	24	29	34	39	44	49	54	59	64	69	9999			
03/17/																	
19	0	0	0	3	5	19	19	8	3	1	0	0	0	0	58	46	40
01:00	0	0	0	2	2	9	13	6	0	0	0	0	0	0	32	45	40
02:00	0	0	0	1	2	4	8	2	1	0	0	0	0	0	18	44	40
03:00	0	0	0	0	3	3	5	2	1	0	0	0	0	0	14	46	40
04:00	0	0	0	0	1	3	6	0	0	1	0	0	0	0	11	43	41
05:00	0	0	0	0	2	4	9	4	2	0	0	0	0	0	21	47	42
06:00	0	0	0	2	6	21	25	17	5	1	0	0	0	0	77	47	41
07:00	0	0	0	1	8	38	25	22	5	0	0	0	0	0	99	46	41
08:00	0	0	0	2	7	32	60	45	17	1	0	0	0	0	164	48	43
09:00	0	0	0	0	13	61	121	59	16	7	0	0	0	0	277	47	42
10:00	0	0	0	0	10	59	142	111	19	1	0	0	0	0	342	47	43
11:00	0	0	0	0	11	89	186	125	35	6	0	0	0	0	452	47	43
12 PM	0	0	0	1	8	98	215	139	29	8	1	0	0	0	499	47	43
13:00	0	0	0	0	13	125	264	133	41	5	1	0	0	0	582	47	43
14:00	0	0	0	0	20	144	299	144	21	6	1	0	0	0	635	46	42
15:00	0	0	0	1	21	131	245	135	27	5	2	0	0	0	567	47	42
16:00	0	0	0	0	10	102	246	142	34	4	0	0	0	0	538	47	43
17:00	0	0	0	1	15	113	227	120	30	2	0	0	0	0	508	47	42
18:00	0	0	0	1	42	148	153	95	8	2	2	0	0	0	451	46	41
19:00	0	0	0	2	27	90	118	46	16	1	0	0	0	0	300	45	41
20:00	0	0	0	4	21	82	83	43	11	4	1	0	0	0	249	46	41
21:00	0	0	0	2	11	55	65	31	6	4	0	0	0	0	174	46	41
22:00	0	0	1	2	7	30	35	18	10	1	0	0	0	0	104	47	41
23:00	0	0	0	1	6	27	35	13	10	2	1	0	0	0	95	48	42
Total	0	0	1	26	271	1487	2604	1460	347	62	9	0	0	0	6267		
%	0.0%	0.0%	0.0%	0.4%	4.3%	23.7%	41.6%	23.3%	5.5%	1.0%	0.1%	0.0%	0.0%				
AM				00:00	09:00	11:00	11:00	11:00	11:00	09:00					11:00		
Peak																	
Vol.				3	13	89	186	125	35	7					452		
PM				22:00	20:00	18:00	18:00	14:00	14:00	13:00	12:00	15:00			14:00		
Peak																	
Vol.				1	4	42	148	299	144	41	8	2			635		

Stats
15th Percentile : 36 MPH
50th Percentile : 41 MPH
85th Percentile : 47 MPH
95th Percentile : 50 MPH

Mean Speed(Average) : 42 MPH
10 MPH Pace Speed : 35-44 MPH
Number in Pace : 4091
Percent in Pace : 65.3%
Number of Vehicles > 30 MPH : 6186
Percent of Vehicles > 30 MPH : 98.7%

Hammond Pond Parkway (NB)
south of Beacon Street
City, State: Newton, MA
Client: BSC/ S.Offei-Addo



46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

196789 A NB Speed
Site Code: TBD

NB	Start Time	14	15	20	25	30	35	40	45	50	55	60	65	70	Total	85th Perce	Avera (Mean
		14	19	24	29	34	39	44	49	54	59	64	69	9999			
03/18/																	
19	0	0	0	1	4	8	7	6	2	1	0	0	0	0	29	47	41
01:00	0	0	0	0	2	4	6	2	1	0	0	0	0	0	15	45	41
02:00	0	0	1	0	2	2	2	0	1	0	0	0	0	0	8	43	37
03:00	0	0	0	0	2	4	6	2	1	0	0	0	0	0	15	45	41
04:00	0	0	0	0	1	9	18	12	5	2	0	0	0	0	47	48	44
05:00	0	0	0	0	6	27	40	22	12	1	0	0	0	0	108	48	42
06:00	0	0	0	1	26	93	174	96	15	2	1	0	0	0	408	46	42
07:00	0	0	0	2	72	345	404	127	19	2	0	0	0	0	971	44	40
08:00	0	0	0	7	50	338	398	142	29	4	0	0	0	0	968	45	41
09:00	0	0	0	0	12	188	269	125	27	1	2	0	0	0	624	46	42
10:00	0	0	0	2	19	112	221	91	26	2	1	0	0	0	474	46	42
11:00	0	0	0	1	7	92	216	131	29	4	2	0	0	0	482	47	43
12 PM	0	0	0	0	16	93	233	108	41	3	0	0	0	0	494	47	43
13:00	0	0	0	0	17	144	208	148	35	3	0	0	0	0	555	47	42
14:00	0	0	0	0	20	133	266	147	32	13	0	0	0	0	611	47	43
15:00	0	0	0	1	17	135	267	155	35	2	1	0	0	0	613	47	43
16:00	0	0	0	0	24	119	258	158	38	11	3	0	1	1	612	47	43
17:00	0	0	0	0	20	130	312	134	45	6	0	0	0	0	647	47	43
18:00	0	0	0	1	27	151	226	112	26	5	2	0	0	0	550	46	42
19:00	0	0	0	2	17	128	167	80	20	1	0	0	0	0	415	46	41
20:00	0	0	0	1	30	79	93	51	10	3	0	0	0	0	267	46	41
21:00	0	0	0	3	20	79	79	26	7	2	0	0	0	0	216	44	40
22:00	0	0	0	0	5	42	42	19	2	1	0	0	0	0	111	45	41
23:00	0	0	0	1	10	30	34	14	2	1	0	0	0	0	92	45	40
Total	0	0	1	23	426	2485	3946	1908	460	70	12	0	1	1	9332		
%	0.0%	0.0%	0.0%	0.2%	4.6%	26.6%	42.3%	20.4%	4.9%	0.8%	0.1%	0.0%	0.0%	0.0%			
AM Peak			02:00	08:00	07:00	07:00	07:00	08:00	08:00	08:00	09:00				07:00		
Vol.			1	7	72	345	404	142	29	4	2				971		
PM Peak				21:00	20:00	18:00	17:00	16:00	17:00	14:00	16:00		16:00		17:00		
Vol.				3	30	151	312	158	45	13	3		1		647		

Stats
15th Percentile : 35 MPH
50th Percentile : 41 MPH
85th Percentile : 46 MPH
95th Percentile : 49 MPH

Mean Speed(Average) : 42 MPH
10 MPH Pace Speed : 35-44 MPH
Number in Pace : 6431
Percent in Pace : 68.9%
Number of Vehicles > 30 MPH : 9223
Percent of Vehicles > 30 MPH : 98.8%

Hammond Pond Parkway (SB)
south of Beacon Street
City, State: Newton, MA
Client: BSC/ S.Offei-Addo



46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

196789 A SB Volume
Site Code: TBD

Start	03/12/19		Wed		Thu		Fri		Sat		Sun		Mon		Average Day	
Time	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.
12:00	7	131	7	139	15	152	13	145	18	152	22	156	11	112	13	141
12:15	9	122	7	137	8	138	7	131	20	143	19	145	7	121	11	134
12:30	6	146	7	100	6	87	8	125	16	135	10	136	4	133	8	123
12:45	5	124	5	135	9	132	9	112	11	148	13	123	4	106	8	126
01:00	4	110	2	109	5	122	7	157	14	169	10	144	7	109	7	131
01:15	1	125	2	109	4	116	5	138	11	169	8	119	4	103	5	126
01:30	3	134	5	99	1	121	5	147	4	146	9	127	0	114	4	127
01:45	3	138	4	121	3	132	5	133	5	169	5	117	1	135	4	135
02:00	1	121	1	132	4	151	4	138	11	165	6	131	1	106	4	135
02:15	5	119	5	135	5	112	1	143	6	147	10	118	1	113	5	127
02:30	0	129	0	157	0	157	3	138	5	129	8	119	2	134	3	138
02:45	3	159	1	161	1	181	1	165	4	139	4	124	2	172	2	157
03:00	1	185	2	177	2	167	2	205	4	149	2	125	0	162	2	167
03:15	2	149	0	188	2	179	2	205	5	145	4	120	3	171	3	165
03:30	2	188	1	186	5	188	4	166	6	154	3	137	6	159	4	168
03:45	2	158	1	181	5	169	2	163	2	152	3	131	1	178	2	162
04:00	3	181	4	162	2	160	4	172	2	143	4	124	2	181	3	160
04:15	1	163	3	185	14	149	2	175	4	128	3	122	1	156	4	154
04:30	0	147	1	161	35	167	2	166	1	134	2	131	2	177	6	155
04:45	3	196	4	190	20	164	3	161	5	108	0	107	2	166	5	156
05:00	7	203	4	182	6	196	7	191	3	166	6	116	8	171	6	175
05:15	17	193	7	217	11	201	16	180	6	134	2	101	12	199	10	175
05:30	17	194	24	210	26	190	22	157	2	137	6	107	23	163	17	165
05:45	32	198	21	177	24	202	25	194	6	111	3	112	30	191	20	169
06:00	27	181	12	165	18	186	34	151	3	120	6	77	31	143	19	146
06:15	42	169	41	165	46	189	74	162	14	108	11	87	41	148	38	147
06:30	56	141	65	153	49	171	55	167	9	118	9	93	51	136	42	140
06:45	88	142	107	144	62	155	48	131	20	107	19	79	81	133	61	127
07:00	79	130	72	143	64	147	68	118	29	115	23	77	62	109	57	120
07:15	111	106	110	126	130	126	104	125	27	94	26	72	74	109	83	108
07:30	111	112	118	109	129	100	102	104	25	77	29	51	92	84	87	91
07:45	159	87	135	96	149	104	163	97	32	61	32	68	103	83	110	85
08:00	126	100	122	94	133	97	126	93	43	68	36	51	103	75	98	83
08:15	129	87	118	80	117	88	115	84	42	71	31	40	110	70	95	74
08:30	105	62	121	52	140	73	125	65	57	51	31	46	104	57	98	58
08:45	94	65	115	60	127	84	100	72	74	41	57	38	103	49	96	58
09:00	97	50	95	75	92	63	110	55	60	43	39	40	98	45	84	53
09:15	114	44	109	56	112	68	111	45	56	42	45	39	77	52	89	49
09:30	103	57	102	55	89	48	106	47	92	52	43	25	83	44	88	47
09:45	110	37	102	49	94	42	113	50	89	56	68	27	96	26	96	41
10:00	102	35	98	28	111	48	97	72	89	63	60	34	94	35	93	45
10:15	91	35	87	35	99	36	115	28	110	53	82	26	83	40	95	36
10:30	89	30	93	41	103	48	103	39	118	38	84	30	83	35	96	37
10:45	106	40	109	32	85	42	108	42	130	48	78	22	81	33	100	37
11:00	85	29	85	20	96	26	106	42	133	43	91	15	92	19	98	28
11:15	105	22	135	27	108	18	179	26	132	36	100	12	109	20	124	23
11:30	123	10	96	18	120	11	125	29	129	23	126	9	103	11	117	16
11:45	110	6	103	12	126	6	148	16	125	25	119	10	111	14	120	13
Total	2496	5490	2468	5585	2612	5709	2694	5667	1809	5025	1407	4060	2199	5102	2240	5233
Day Total	7986		8053		8321		8361		6834		5467		7301		7473	
% Splits	31.3%	68.7%	30.6%	69.4%	31.4%	68.6%	32.2%	67.8%	26.5%	73.5%	25.7%	74.3%	30.1%	69.9%	30.0%	70.0%
Peak	07:30	05:00	07:45	04:45	07:15	05:00	11:00	02:45	10:45	01:00	11:00	12:00	07:45	05:00	11:00	05:00
Vol.	525	788	496	799	541	789	558	741	524	653	436	560	420	724	459	684
P.H.F.	0.825	0.970	0.919	0.921	0.908	0.976	0.779	0.904	0.985	0.966	0.865	0.897	0.955	0.910	0.925	0.977

Hammond Pond Parkway (SB)
south of Beacon Street
City, State: Newton, MA
Client: BSC/ S.Offei-Addo



46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdilic.com

196789 A SB Volume
Site Code: TBD

Start Time	A.M.	SB		P.M.	Tue 03/12/19									
12:00	7			131										
12:15	9			122										
12:30	6			146										
12:45	5	27		124	523									
01:00	4			110										
01:15	1			125										
01:30	3			134										
01:45	3	11		138	507									
02:00	1			121										
02:15	5			119										
02:30	0			129										
02:45	3	9		159	528									
03:00	1			185										
03:15	2			149										
03:30	2			188										
03:45	2	7		158	680									
04:00	3			181										
04:15	1			163										
04:30	0			147										
04:45	3	7		196	687									
05:00	7			203										
05:15	17			193										
05:30	17			194										
05:45	32	73		198	788									
06:00	27			181										
06:15	42			169										
06:30	56			141										
06:45	88	213		142	633									
07:00	79			130										
07:15	111			106										
07:30	111			112										
07:45	159	460		87	435									
08:00	126			100										
08:15	129			87										
08:30	105			62										
08:45	94	454		65	314									
09:00	97			50										
09:15	114			44										
09:30	103			57										
09:45	110	424		37	188									
10:00	102			35										
10:15	91			35										
10:30	89			30										
10:45	106	388		40	140									
11:00	85			29										
11:15	105			22										
11:30	123			10										
11:45	110	423		6	67									
Total	2496			5490										
Percent				100.0%	0.0%									
Day Total		7986												
Peak	07:30	-	05:00	-	-	-	-	-	-	-	-	-	-	-
Vol.	525	-	788	-	-	-	-	-	-	-	-	-	-	-
P.H.F.	0.825		0.970											

Hammond Pond Parkway (SB)
south of Beacon Street
City, State: Newton, MA
Client: BSC/ S.Offei-Addo



46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdilic.com

196789 A SB Volume
Site Code: TBD

Start Time		SB		P.M.		Wed 03/13/19									
A.M.															
12:00	7			139											
12:15	7			137											
12:30	7			100											
12:45	5	26		135	511										
01:00	2			109											
01:15	2			109											
01:30	5			99											
01:45	4	13		121	438										
02:00	1			132											
02:15	5			135											
02:30	0			157											
02:45	1	7		161	585										
03:00	2			177											
03:15	0			188											
03:30	1			186											
03:45	1	4		181	732										
04:00	4			162											
04:15	3			185											
04:30	1			161											
04:45	4	12		190	698										
05:00	4			182											
05:15	7			217											
05:30	24			210											
05:45	21	56		177	786										
06:00	12			165											
06:15	41			165											
06:30	65			153											
06:45	107	225		144	627										
07:00	72			143											
07:15	110			126											
07:30	118			109											
07:45	135	435		96	474										
08:00	122			94											
08:15	118			80											
08:30	121			52											
08:45	115	476		60	286										
09:00	95			75											
09:15	109			56											
09:30	102			55											
09:45	102	408		49	235										
10:00	98			28											
10:15	87			35											
10:30	93			41											
10:45	109	387		32	136										
11:00	85			20											
11:15	135			27											
11:30	96			18											
11:45	103	419		12	77										
Total	2468			5585											
Percent				100.0%		0.0%									
Day Total		8053													
Peak	07:45	-	04:45	-	-	-	-	-	-	-	-	-	-	-	-
Vol.	496	-	799	-	-	-	-	-	-	-	-	-	-	-	-
P.H.F.	0.919		0.921												

Hammond Pond Parkway (SB)
south of Beacon Street
City, State: Newton, MA
Client: BSC/ S.Offei-Addo



46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

196789 A SB Volume
Site Code: TBD

Start Time		SB		P.M.		Thu 03/14/19									
A.M.															
12:00	15			152											
12:15	8			138											
12:30	6			87											
12:45	9	38		132	509										
01:00	5			122											
01:15	4			116											
01:30	1			121											
01:45	3	13		132	491										
02:00	4			151											
02:15	5			112											
02:30	0			157											
02:45	1	10		181	601										
03:00	2			167											
03:15	2			179											
03:30	5			188											
03:45	5	14		169	703										
04:00	2			160											
04:15	14			149											
04:30	35			167											
04:45	20	71		164	640										
05:00	6			196											
05:15	11			201											
05:30	26			190											
05:45	24	67		202	789										
06:00	18			186											
06:15	46			189											
06:30	49			171											
06:45	62	175		155	701										
07:00	64			147											
07:15	130			126											
07:30	129			100											
07:45	149	472		104	477										
08:00	133			97											
08:15	117			88											
08:30	140			73											
08:45	127	517		84	342										
09:00	92			63											
09:15	112			68											
09:30	89			48											
09:45	94	387		42	221										
10:00	111			48											
10:15	99			36											
10:30	103			48											
10:45	85	398		42	174										
11:00	96			26											
11:15	108			18											
11:30	120			11											
11:45	126	450		6	61										
Total	2612			5709											
Percent				100.0%		0.0%				0.0%					
Day Total		8321													
Peak	07:15	-	05:00	-	-	-	-	-	-	-	-	-	-	-	-
Vol.	541	-	789	-	-	-	-	-	-	-	-	-	-	-	-
P.H.F.	0.908		0.976												

Hammond Pond Parkway (SB)
south of Beacon Street
City, State: Newton, MA
Client: BSC/ S.Offei-Addo



46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdilic.com

196789 A SB Volume
Site Code: TBD

Start Time	A.M.	SB		P.M.	Fri 03/15/19									
12:00	13			145										
12:15	7			131										
12:30	8			125										
12:45	9	37		112	513									
01:00	7			157										
01:15	5			138										
01:30	5			147										
01:45	5	22		133	575									
02:00	4			138										
02:15	1			143										
02:30	3			138										
02:45	1	9		165	584									
03:00	2			205										
03:15	2			205										
03:30	4			166										
03:45	2	10		163	739									
04:00	4			172										
04:15	2			175										
04:30	2			166										
04:45	3	11		161	674									
05:00	7			191										
05:15	16			180										
05:30	22			157										
05:45	25	70		194	722									
06:00	34			151										
06:15	74			162										
06:30	55			167										
06:45	48	211		131	611									
07:00	68			118										
07:15	104			125										
07:30	102			104										
07:45	163	437		97	444									
08:00	126			93										
08:15	115			84										
08:30	125			65										
08:45	100	466		72	314									
09:00	110			55										
09:15	111			45										
09:30	106			47										
09:45	113	440		50	197									
10:00	97			72										
10:15	115			28										
10:30	103			39										
10:45	108	423		42	181									
11:00	106			42										
11:15	179			26										
11:30	125			29										
11:45	148	558		16	113									
Total	2694			5667										
Percent				100.0%	0.0%									
Day Total		8361												
Peak	11:00	-	02:45	-	-	-	-	-	-	-	-	-	-	-
Vol.	558	-	741	-	-	-	-	-	-	-	-	-	-	-
P.H.F.	0.779		0.904											

Hammond Pond Parkway (SB)
south of Beacon Street
City, State: Newton, MA
Client: BSC/ S.Offei-Addo



46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdilic.com

196789 A SB Volume
Site Code: TBD

Start Time	A.M.	SB		P.M.	Sat 03/16/19									
12:00	18			152										
12:15	20			143										
12:30	16			135										
12:45	11	65		148	578									
01:00	14			169										
01:15	11			169										
01:30	4			146										
01:45	5	34		169	653									
02:00	11			165										
02:15	6			147										
02:30	5			129										
02:45	4	26		139	580									
03:00	4			149										
03:15	5			145										
03:30	6			154										
03:45	2	17		152	600									
04:00	2			143										
04:15	4			128										
04:30	1			134										
04:45	5	12		108	513									
05:00	3			166										
05:15	6			134										
05:30	2			137										
05:45	6	17		111	548									
06:00	3			120										
06:15	14			108										
06:30	9			118										
06:45	20	46		107	453									
07:00	29			115										
07:15	27			94										
07:30	25			77										
07:45	32	113		61	347									
08:00	43			68										
08:15	42			71										
08:30	57			51										
08:45	74	216		41	231									
09:00	60			43										
09:15	56			42										
09:30	92			52										
09:45	89	297		56	193									
10:00	89			63										
10:15	110			53										
10:30	118			38										
10:45	130	447		48	202									
11:00	133			43										
11:15	132			36										
11:30	129			23										
11:45	125	519		25	127									
Total	1809			5025										
Percent				100.0%	0.0%									
Day Total		6834												
Peak	10:45	-	01:00	-	-	-	-	-	-	-	-	-	-	-
Vol.	524	-	653	-	-	-	-	-	-	-	-	-	-	-
P.H.F.	0.985		0.966											

Hammond Pond Parkway (SB)
south of Beacon Street
City, State: Newton, MA
Client: BSC/ S.Offei-Addo



46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdilic.com

196789 A SB Volume
Site Code: TBD

Start Time	A.M.	SB		P.M.	Sun 03/17/19									
12:00	22			156										
12:15	19			145										
12:30	10			136										
12:45	13	64		123	560									
01:00	10			144										
01:15	8			119										
01:30	9			127										
01:45	5	32		117	507									
02:00	6			131										
02:15	10			118										
02:30	8			119										
02:45	4	28		124	492									
03:00	2			125										
03:15	4			120										
03:30	3			137										
03:45	3	12		131	513									
04:00	4			124										
04:15	3			122										
04:30	2			131										
04:45	0	9		107	484									
05:00	6			116										
05:15	2			101										
05:30	6			107										
05:45	3	17		112	436									
06:00	6			77										
06:15	11			87										
06:30	9			93										
06:45	19	45		79	336									
07:00	23			77										
07:15	26			72										
07:30	29			51										
07:45	32	110		68	268									
08:00	36			51										
08:15	31			40										
08:30	31			46										
08:45	57	155		38	175									
09:00	39			40										
09:15	45			39										
09:30	43			25										
09:45	68	195		27	131									
10:00	60			34										
10:15	82			26										
10:30	84			30										
10:45	78	304		22	112									
11:00	91			15										
11:15	100			12										
11:30	126			9										
11:45	119	436		10	46									
Total	1407			4060										
Percent				100.0%	0.0%									
Day Total		5467												
Peak	11:00	-	12:00	-	-	-	-	-	-	-	-	-	-	-
Vol.	436	-	560	-	-	-	-	-	-	-	-	-	-	-
P.H.F.	0.865		0.897											

Hammond Pond Parkway (SB)
south of Beacon Street
City, State: Newton, MA
Client: BSC/ S.Offei-Addo



46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

196789 A SB Volume
Site Code: TBD

Start Time	A.M.	SB		P.M.	Mon 03/18/19									
12:00	11			112										
12:15	7			121										
12:30	4			133										
12:45	4	26		106	472									
01:00	7			109										
01:15	4			103										
01:30	0			114										
01:45	1	12		135	461									
02:00	1			106										
02:15	1			113										
02:30	2			134										
02:45	2	6		172	525									
03:00	0			162										
03:15	3			171										
03:30	6			159										
03:45	1	10		178	670									
04:00	2			181										
04:15	1			156										
04:30	2			177										
04:45	2	7		166	680									
05:00	8			171										
05:15	12			199										
05:30	23			163										
05:45	30	73		191	724									
06:00	31			143										
06:15	41			148										
06:30	51			136										
06:45	81	204		133	560									
07:00	62			109										
07:15	74			109										
07:30	92			84										
07:45	103	331		83	385									
08:00	103			75										
08:15	110			70										
08:30	104			57										
08:45	103	420		49	251									
09:00	98			45										
09:15	77			52										
09:30	83			44										
09:45	96	354		26	167									
10:00	94			35										
10:15	83			40										
10:30	83			35										
10:45	81	341		33	143									
11:00	92			19										
11:15	109			20										
11:30	103			11										
11:45	111	415		14	64									
Total	2199			5102										
Percent				100.0%		0.0%				0.0%				
Day Total		7301												
Peak	07:45	-	05:00	-	-	-	-	-	-	-	-	-	-	-
Vol.	420	-	724	-	-	-	-	-	-	-	-	-	-	-
P.H.F.	0.955		0.910											

Hammond Pond Parkway (SB)
south of Beacon Street
City, State: Newton, MA
Client: BSC/ S.Offei-Addo



PRECISION
D A T A
INDUSTRIES, LLC

46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

196789 A SB Class
Site Code: TBD

SB

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
03/12/1														
9	0	25	2	0	0	0	0	0	0	0	0	0	0	27
01:00	0	9	1	0	0	0	0	1	0	0	0	0	0	11
02:00	0	9	0	0	0	0	0	0	0	0	0	0	0	9
03:00	0	4	3	0	0	0	0	0	0	0	0	0	0	7
04:00	0	6	0	0	1	0	0	0	0	0	0	0	0	7
05:00	0	58	13	0	2	0	0	0	0	0	0	0	0	73
06:00	1	189	18	0	5	0	0	0	0	0	0	0	0	213
07:00	2	396	45	2	9	1	1	3	0	0	0	1	0	460
08:00	1	398	41	0	9	1	1	2	0	0	1	0	0	454
09:00	1	380	38	1	2	1	1	0	0	0	0	0	0	424
10:00	5	319	53	1	8	1	0	1	0	0	0	0	0	388
11:00	1	357	49	1	13	0	0	1	0	0	1	0	0	423
12 PM	1	464	46	0	7	2	0	2	1	0	0	0	0	523
13:00	1	444	52	1	5	0	0	2	0	1	0	0	1	507
14:00	5	448	60	1	10	1	0	2	1	0	0	0	0	528
15:00	4	571	84	1	15	2	0	3	0	0	0	0	0	680
16:00	6	604	58	0	7	1	2	3	1	2	1	1	1	687
17:00	9	713	52	1	9	2	0	0	0	2	0	0	0	788
18:00	5	589	33	0	2	3	0	0	0	1	0	0	0	633
19:00	0	412	21	0	0	1	0	1	0	0	0	0	0	435
20:00	1	291	19	0	1	1	0	1	0	0	0	0	0	314
21:00	1	172	15	0	0	0	0	0	0	0	0	0	0	188
22:00	1	122	16	0	1	0	0	0	0	0	0	0	0	140
23:00	0	56	9	0	2	0	0	0	0	0	0	0	0	67
Total	45	7036	728	9	108	17	5	22	3	6	3	2	2	7986
Percent	0.6%	88.1%	9.1%	0.1%	1.4%	0.2%	0.1%	0.3%	0.0%	0.1%	0.0%	0.0%	0.0%	
AM Peak	10:00	08:00	10:00	07:00	11:00	07:00	07:00	07:00			08:00	07:00		07:00
Vol.	5	398	53	2	13	1	1	3			1	1		460
PM Peak	17:00	17:00	15:00	13:00	15:00	18:00	16:00	15:00	12:00	16:00	16:00	16:00	13:00	17:00
Vol.	9	713	84	1	15	3	2	3	1	2	1	1	1	788

Hammond Pond Parkway (SB)
south of Beacon Street
City, State: Newton, MA
Client: BSC/ S.Offei-Addo



46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

196789 A SB Class
Site Code: TBD

SB

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
03/13/19	0	25	0	0	1	0	0	0	0	0	0	0	0	26
01:00	0	13	0	0	0	0	0	0	0	0	0	0	0	13
02:00	0	6	0	0	1	0	0	0	0	0	0	0	0	7
03:00	0	2	1	0	1	0	0	0	0	0	0	0	0	4
04:00	0	7	2	0	2	1	0	0	0	0	0	0	0	12
05:00	0	48	5	0	3	0	0	0	0	0	0	0	0	56
06:00	1	189	26	2	5	2	0	0	0	0	0	0	0	225
07:00	2	352	59	1	17	1	0	3	0	0	0	0	0	435
08:00	3	410	54	2	5	0	0	2	0	0	0	0	0	476
09:00	1	343	52	2	4	4	1	0	0	1	0	0	0	408
10:00	1	327	45	1	9	1	0	2	0	0	1	0	0	387
11:00	0	357	50	1	10	1	0	0	0	0	0	0	0	419
12 PM	1	451	48	3	4	2	0	2	0	0	0	0	0	511
13:00	2	378	47	0	7	1	0	1	0	0	1	1	0	438
14:00	4	494	69	2	11	0	0	0	0	5	0	0	0	585
15:00	2	634	77	1	12	0	0	6	0	0	0	0	0	732
16:00	1	634	51	1	6	1	0	2	0	1	1	0	0	698
17:00	7	701	66	3	3	1	1	1	0	0	2	0	1	786
18:00	1	588	35	0	2	0	0	0	0	0	0	0	1	627
19:00	5	437	27	0	2	1	0	2	0	0	0	0	0	474
20:00	3	265	18	0	0	0	0	0	0	0	0	0	0	286
21:00	0	216	16	0	3	0	0	0	0	0	0	0	0	235
22:00	0	126	8	0	2	0	0	0	0	0	0	0	0	136
23:00	0	64	11	0	2	0	0	0	0	0	0	0	0	77
Total	34	7067	767	19	112	16	2	21	0	7	5	1	2	8053
Percent	0.4%	87.8%	9.5%	0.2%	1.4%	0.2%	0.0%	0.3%	0.0%	0.1%	0.1%	0.0%	0.0%	
AM Peak	08:00	08:00	07:00	06:00	07:00	09:00	09:00	07:00		09:00	10:00			08:00
Vol.	3	410	59	2	17	4	1	3		1	1			476
PM Peak	17:00	17:00	15:00	12:00	15:00	12:00	17:00	15:00		14:00	17:00	13:00	17:00	17:00
Vol.	7	701	77	3	12	2	1	6		5	2	1	1	786

Hammond Pond Parkway (SB)
south of Beacon Street
City, State: Newton, MA
Client: BSC/ S.Offei-Addo



PRECISION
D A T A
INDUSTRIES, LLC

46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

196789 A SB Class
Site Code: TBD

SB

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
03/14/1														
9	0	36	2	0	0	0	0	0	0	0	0	0	0	38
01:00	0	9	4	0	0	0	0	0	0	0	0	0	0	13
02:00	0	8	2	0	0	0	0	0	0	0	0	0	0	10
03:00	0	12	1	0	1	0	0	0	0	0	0	0	0	14
04:00	0	58	8	0	5	0	0	0	0	0	0	0	0	71
05:00	0	52	11	0	3	1	0	0	0	0	0	0	0	67
06:00	0	149	17	1	3	1	0	2	1	1	0	0	0	175
07:00	3	387	64	1	15	1	0	0	0	1	0	0	0	472
08:00	2	420	74	0	15	1	2	3	0	0	0	0	0	517
09:00	1	333	47	0	5	0	0	1	0	0	0	0	0	387
10:00	8	333	47	0	9	0	0	0	0	0	1	0	0	398
11:00	1	381	49	0	11	3	1	3	0	1	0	0	0	450
12 PM	1	462	36	5	2	0	0	2	0	1	0	0	0	509
13:00	2	443	40	0	5	0	0	1	0	0	0	0	0	491
14:00	0	509	76	1	10	0	0	3	0	0	1	1	0	601
15:00	3	605	73	2	12	0	0	8	0	0	0	0	0	703
16:00	8	562	62	1	4	0	0	1	0	2	0	0	0	640
17:00	1	744	33	1	7	0	2	1	0	0	0	0	0	789
18:00	5	651	32	1	5	5	0	1	0	1	0	0	0	701
19:00	4	446	24	0	2	0	0	0	0	1	0	0	0	477
20:00	1	322	16	0	3	0	0	0	0	0	0	0	0	342
21:00	1	215	3	0	2	0	0	0	0	0	0	0	0	221
22:00	0	158	14	0	1	1	0	0	0	0	0	0	0	174
23:00	0	54	6	0	1	0	0	0	0	0	0	0	0	61
Total	41	7349	741	13	121	13	5	26	1	8	2	1	0	8321
Percent	0.5%	88.3%	8.9%	0.2%	1.5%	0.2%	0.1%	0.3%	0.0%	0.1%	0.0%	0.0%	0.0%	
AM Peak	10:00	08:00	08:00	06:00	07:00	11:00	08:00	08:00	06:00	06:00	10:00			08:00
Vol.	8	420	74	1	15	3	2	3	1	1	1			517
PM Peak	16:00	17:00	14:00	12:00	15:00	18:00	17:00	15:00		16:00	14:00	14:00		17:00
Vol.	8	744	76	5	12	5	2	8		2	1	1		789

Hammond Pond Parkway (SB)
south of Beacon Street
City, State: Newton, MA
Client: BSC/ S.Offei-Addo



46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

196789 A SB Class
Site Code: TBD

SB

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
03/15/1														
9	0	34	3	0	0	0	0	0	0	0	0	0	0	37
01:00	0	18	2	0	2	0	0	0	0	0	0	0	0	22
02:00	0	6	2	0	1	0	0	0	0	0	0	0	0	9
03:00	0	8	1	0	1	0	0	0	0	0	0	0	0	10
04:00	0	3	5	0	2	1	0	0	0	0	0	0	0	11
05:00	1	58	8	0	2	0	0	1	0	0	0	0	0	70
06:00	0	174	32	2	1	2	0	0	0	0	0	0	0	211
07:00	3	362	52	2	13	2	0	2	0	1	0	0	0	437
08:00	3	410	40	1	9	2	0	0	1	0	0	0	0	466
09:00	2	374	52	2	5	2	0	3	0	0	0	0	0	440
10:00	1	371	39	0	7	2	0	2	1	0	0	0	0	423
11:00	0	493	50	0	10	2	0	0	0	1	2	0	0	558
12 PM	1	459	41	0	9	1	0	1	1	0	0	0	0	513
13:00	0	510	49	1	13	1	0	1	0	0	0	0	0	575
14:00	5	494	67	2	9	0	2	2	0	2	0	1	0	584
15:00	4	659	58	2	12	2	0	1	0	0	1	0	0	739
16:00	5	598	59	0	7	2	0	2	0	1	0	0	0	674
17:00	7	639	62	2	8	3	0	0	0	1	0	0	0	722
18:00	6	561	32	0	3	2	1	4	0	0	2	0	0	611
19:00	0	424	19	0	0	0	0	1	0	0	0	0	0	444
20:00	3	296	13	1	1	0	0	0	0	0	0	0	0	314
21:00	1	182	12	0	1	0	0	0	0	1	0	0	0	197
22:00	0	168	11	0	2	0	0	0	0	0	0	0	0	181
23:00	0	106	6	0	1	0	0	0	0	0	0	0	0	113
Total	42	7407	715	15	119	24	3	20	3	7	5	1	0	8361
Percent	0.5%	88.6%	8.6%	0.2%	1.4%	0.3%	0.0%	0.2%	0.0%	0.1%	0.1%	0.0%	0.0%	
AM Peak	07:00	11:00	07:00	06:00	07:00	06:00		09:00	08:00	07:00	11:00			11:00
Vol.	3	493	52	2	13	2		3	1	1	2			558
PM Peak	17:00	15:00	14:00	14:00	13:00	17:00	14:00	18:00	12:00	14:00	18:00	14:00		15:00
Vol.	7	659	67	2	13	3	2	4	1	2	2	1		739

Hammond Pond Parkway (SB)
south of Beacon Street
City, State: Newton, MA
Client: BSC/ S.Offei-Addo



PRECISION
D A T A
INDUSTRIES, LLC

46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

196789 A SB Class
Site Code: TBD

SB

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
03/16/19	1	62	2	0	0	0	0	0	0	0	0	0	0	65
01:00	0	34	0	0	0	0	0	0	0	0	0	0	0	34
02:00	0	24	1	1	0	0	0	0	0	0	0	0	0	26
03:00	0	14	2	0	0	1	0	0	0	0	0	0	0	17
04:00	0	11	1	0	0	0	0	0	0	0	0	0	0	12
05:00	0	15	1	0	1	0	0	0	0	0	0	0	0	17
06:00	0	35	10	0	1	0	0	0	0	0	0	0	0	46
07:00	0	96	15	0	2	0	0	0	0	0	0	0	0	113
08:00	1	192	20	0	2	0	1	0	0	0	0	0	0	216
09:00	1	272	19	0	4	0	0	1	0	0	0	0	0	297
10:00	2	411	28	1	3	0	1	1	0	0	0	0	0	447
11:00	2	474	41	0	1	0	0	0	0	0	1	0	0	519
12 PM	5	528	38	0	3	0	1	2	0	1	0	0	0	578
13:00	1	590	56	1	3	2	0	0	0	0	0	0	0	653
14:00	2	520	49	1	5	2	1	0	0	0	0	0	0	580
15:00	3	558	33	0	4	1	0	1	0	0	0	0	0	600
16:00	2	470	33	1	2	0	1	4	0	0	0	0	0	513
17:00	2	500	41	0	3	0	0	2	0	0	0	0	0	548
18:00	3	413	32	1	2	1	0	0	0	0	0	1	0	453
19:00	2	326	14	0	3	1	1	0	0	0	0	0	0	347
20:00	1	219	10	0	0	0	0	0	0	1	0	0	0	231
21:00	0	180	13	0	0	0	0	0	0	0	0	0	0	193
22:00	1	182	14	0	5	0	0	0	0	0	0	0	0	202
23:00	2	115	10	0	0	0	0	0	0	0	0	0	0	127
Total	31	6241	483	6	44	8	6	11	0	2	1	1	0	6834
Percent	0.5%	91.3%	7.1%	0.1%	0.6%	0.1%	0.1%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak	10:00	11:00	11:00	02:00	09:00	03:00	08:00	09:00			11:00			11:00
Vol.	2	474	41	1	4	1	1	1			1			519
PM Peak	12:00	13:00	13:00	13:00	14:00	13:00	12:00	16:00		12:00		18:00		13:00
Vol.	5	590	56	1	5	2	1	4		1		1		653

Hammond Pond Parkway (SB)
south of Beacon Street
City, State: Newton, MA
Client: BSC/ S.Offei-Addo



46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdilc.com

196789 A SB Class
Site Code: TBD

SB

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
03/17/1														
9	0	62	1	0	1	0	0	0	0	0	0	0	0	64
01:00	0	29	2	1	0	0	0	0	0	0	0	0	0	32
02:00	0	28	0	0	0	0	0	0	0	0	0	0	0	28
03:00	0	10	2	0	0	0	0	0	0	0	0	0	0	12
04:00	0	8	0	0	1	0	0	0	0	0	0	0	0	9
05:00	0	16	1	0	0	0	0	0	0	0	0	0	0	17
06:00	0	42	1	0	2	0	0	0	0	0	0	0	0	45
07:00	1	95	12	0	2	0	0	0	0	0	0	0	0	110
08:00	0	141	10	0	3	0	1	0	0	0	0	0	0	155
09:00	0	183	11	0	1	0	0	0	0	0	0	0	0	195
10:00	0	278	24	0	1	0	0	0	0	1	0	0	0	304
11:00	2	399	30	0	4	1	0	0	0	0	0	0	0	436
12 PM	0	526	28	0	4	0	0	1	0	1	0	0	0	560
13:00	2	466	31	0	4	1	0	1	0	2	0	0	0	507
14:00	2	452	33	0	4	1	0	0	0	0	0	0	0	492
15:00	3	483	22	1	2	1	0	0	0	1	0	0	0	513
16:00	4	453	22	1	2	0	0	1	0	0	1	0	0	484
17:00	1	405	25	0	2	0	0	1	0	1	1	0	0	436
18:00	1	313	20	0	1	0	0	1	0	0	0	0	0	336
19:00	1	251	15	0	1	0	0	0	0	0	0	0	0	268
20:00	0	164	11	0	0	0	0	0	0	0	0	0	0	175
21:00	0	122	6	0	3	0	0	0	0	0	0	0	0	131
22:00	0	103	9	0	0	0	0	0	0	0	0	0	0	112
23:00	0	42	3	0	0	0	0	1	0	0	0	0	0	46
Total	17	5071	319	3	38	4	1	6	0	6	2	0	0	5467
Percent	0.3%	92.8%	5.8%	0.1%	0.7%	0.1%	0.0%	0.1%	0.0%	0.1%	0.0%	0.0%	0.0%	
AM Peak	11:00	11:00	11:00	01:00	11:00	11:00	08:00			10:00				11:00
Vol.	2	399	30	1	4	1	1			1				436
PM Peak	16:00	12:00	14:00	15:00	12:00	13:00		12:00		13:00	16:00			12:00
Vol.	4	526	33	1	4	1		1		2	1			560

Hammond Pond Parkway (SB)
south of Beacon Street
City, State: Newton, MA
Client: BSC/ S.Offei-Addo



PRECISION
D A T A
INDUSTRIES, LLC

46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

196789 A SB Class
Site Code: TBD

SB

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total
03/18/19	0	22	4	0	0	0	0	0	0	0	0	0	0	26
01:00	0	12	0	0	0	0	0	0	0	0	0	0	0	12
02:00	0	5	0	0	1	0	0	0	0	0	0	0	0	6
03:00	0	9	1	0	0	0	0	0	0	0	0	0	0	10
04:00	0	6	0	0	1	0	0	0	0	0	0	0	0	7
05:00	0	58	12	0	2	1	0	0	0	0	0	0	0	73
06:00	0	170	23	2	8	1	0	0	0	0	0	0	0	204
07:00	1	258	53	1	13	2	0	2	0	0	1	0	0	331
08:00	3	358	50	2	4	0	2	1	0	0	0	0	0	420
09:00	0	288	48	3	13	0	0	2	0	0	0	0	0	354
10:00	0	291	37	1	7	2	1	2	0	0	0	0	0	341
11:00	2	354	44	0	11	1	1	1	0	0	0	1	0	415
12 PM	1	416	45	1	6	1	0	1	0	0	0	0	1	472
13:00	0	401	49	1	8	0	0	2	0	0	0	0	0	461
14:00	3	452	58	0	7	2	0	3	0	0	0	0	0	525
15:00	2	562	82	2	13	4	0	4	0	1	0	0	0	670
16:00	5	602	64	1	2	2	0	3	0	0	1	0	0	680
17:00	4	663	45	3	5	2	1	1	0	0	0	0	0	724
18:00	4	512	40	0	2	1	0	0	0	1	0	0	0	560
19:00	1	362	20	0	2	0	0	0	0	0	0	0	0	385
20:00	0	237	10	0	4	0	0	0	0	0	0	0	0	251
21:00	0	155	12	0	0	0	0	0	0	0	0	0	0	167
22:00	1	132	9	0	1	0	0	0	0	0	0	0	0	143
23:00	1	54	7	0	2	0	0	0	0	0	0	0	0	64
Total	28	6379	713	17	112	19	5	22	0	2	2	1	1	7301
Percent	0.4%	87.4%	9.8%	0.2%	1.5%	0.3%	0.1%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%	
AM Peak	08:00	08:00	07:00	09:00	07:00	07:00	08:00	07:00			07:00	11:00		08:00
Vol.	3	358	53	3	13	2	2	2			1	1		420
PM Peak	16:00	17:00	15:00	17:00	15:00	15:00	17:00	15:00		15:00	16:00		12:00	17:00
Vol.	5	663	82	3	13	4	1	4		1	1		1	724

Hammond Pond Parkway (SB)
south of Beacon Street
City, State: Newton, MA
Client: BSC/ S.Offei-Addo



46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

196789 A SB Speed
Site Code: TBD

SB

Start Time	1 14	15 19	20 24	25 29	30 34	35 39	40 44	45 49	50 54	55 59	60 64	65 69	70 9999	Total	85th Perce	Avera (Mean
03/12/																
19	0	0	0	0	4	10	10	3	0	0	0	0	0	27	43	39
01:00	0	0	0	0	6	4	0	1	0	0	0	0	0	11	38	35
02:00	0	0	0	0	4	1	2	1	1	0	0	0	0	9	47	39
03:00	0	0	0	0	0	3	3	0	0	1	0	0	0	7	43	42
04:00	0	0	0	0	3	1	2	1	0	0	0	0	0	7	43	38
05:00	0	0	0	3	13	28	19	8	0	2	0	0	0	73	43	39
06:00	0	0	1	6	35	90	61	15	4	1	0	0	0	213	43	38
07:00	0	0	0	14	75	182	139	37	12	1	0	0	0	460	43	39
08:00	0	0	1	14	71	163	144	54	6	0	1	0	0	454	43	39
09:00	1	0	0	9	70	159	127	43	15	0	0	0	0	424	43	39
10:00	3	0	4	23	80	124	116	31	6	1	0	0	0	388	43	38
11:00	1	1	3	19	78	180	111	23	6	1	0	0	0	423	42	38
12 PM	1	8	23	14	94	207	130	37	4	3	1	0	1	523	42	37
13:00	0	0	0	6	73	222	155	39	8	1	1	1	1	507	43	39
14:00	0	0	0	7	67	232	154	49	13	5	0	0	1	528	43	39
15:00	0	0	1	12	79	236	246	86	18	2	0	0	0	680	44	40
16:00	0	0	1	14	93	290	210	69	9	1	0	0	0	687	43	39
17:00	0	0	0	9	127	331	245	63	10	2	1	0	0	788	43	39
18:00	1	0	1	6	114	330	144	31	3	1	2	0	0	633	41	38
19:00	0	0	0	16	87	202	104	22	4	0	0	0	0	435	42	37
20:00	0	0	1	7	62	139	88	11	4	1	1	0	0	314	42	38
21:00	0	0	0	9	29	88	45	11	5	0	1	0	0	188	42	38
22:00	0	0	0	14	29	59	28	7	3	0	0	0	0	140	42	37
23:00	0	0	0	3	20	22	14	6	1	1	0	0	0	67	43	38
Total	7	9	36	205	1313	3303	2297	648	132	24	8	1	3	7986		
%	0.1%	0.1%	0.5%	2.6%	16.4%	41.4%	28.8%	8.1%	1.7%	0.3%	0.1%	0.0%	0.0%			
AM Peak	10:00	11:00	10:00	10:00	10:00	07:00	08:00	08:00	09:00	05:00	08:00			07:00		
Vol.	3	1	4	23	80	182	144	54	15	2	1			460		
PM Peak	12:00	12:00	12:00	19:00	17:00	17:00	15:00	15:00	15:00	14:00	18:00	13:00	12:00	17:00		
Vol.	1	8	23	16	127	331	246	86	18	5	2	1	1	788		

Stats
15th Percentile : 32 MPH
50th Percentile : 37 MPH
85th Percentile : 43 MPH
95th Percentile : 47 MPH

Mean Speed(Average) : 38 MPH
10 MPH Pace Speed : 35-44 MPH
Number in Pace : 5600
Percent in Pace : 70.1%
Number of Vehicles > 30 MPH : 7466
Percent of Vehicles > 30 MPH : 93.5%

Hammond Pond Parkway (SB)
south of Beacon Street
City, State: Newton, MA
Client: BSC/ S.Offei-Addo



46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

196789 A SB Speed
Site Code: TBD

SB

Start Time	14	15	20	25	30	35	40	45	50	55	60	65	70	Total	85th Perce	Avera (Mean
	14	19	24	29	34	39	44	49	54	59	64	69	9999			
03/13/19	0	0	0	1	7	6	5	6	1	0	0	0	0	26	46	39
01:00	0	0	0	0	3	6	1	2	0	1	0	0	0	13	46	39
02:00	0	0	0	2	1	1	2	0	0	1	0	0	0	7	43	38
03:00	0	0	0	0	1	1	2	0	0	0	0	0	0	4	42	38
04:00	0	0	1	0	2	3	3	1	2	0	0	0	0	12	49	40
05:00	0	0	1	1	7	21	18	6	0	1	1	0	0	56	43	39
06:00	1	0	0	4	47	80	61	23	7	1	1	0	0	225	43	39
07:00	1	0	0	2	45	163	156	56	9	3	0	0	0	435	44	40
08:00	0	0	1	6	54	190	152	59	14	0	0	0	0	476	44	40
09:00	2	0	0	7	43	186	133	27	5	3	1	0	1	408	43	39
10:00	1	2	0	9	90	139	104	32	10	0	0	0	0	387	43	38
11:00	0	0	0	18	82	172	106	36	5	0	0	0	0	419	42	38
12 PM	0	0	0	20	122	183	143	38	4	1	0	0	0	511	42	38
13:00	1	0	0	12	78	175	119	43	7	2	1	0	0	438	43	38
14:00	1	0	0	9	102	253	158	50	9	2	1	0	0	585	43	38
15:00	1	0	3	35	168	294	188	34	7	1	1	0	0	732	42	37
16:00	1	0	0	14	132	272	224	45	9	1	0	0	0	698	42	38
17:00	1	0	2	26	144	371	183	49	9	0	1	0	0	786	42	38
18:00	1	0	0	22	147	249	163	37	6	1	1	0	0	627	42	38
19:00	1	0	7	20	120	201	99	22	4	0	0	0	0	474	41	37
20:00	0	0	2	11	63	134	56	13	6	1	0	0	0	286	41	37
21:00	0	0	0	11	52	94	60	12	3	1	0	2	0	235	42	38
22:00	0	0	0	10	30	47	35	10	3	1	0	0	0	136	43	38
23:00	0	0	0	5	14	24	19	10	3	0	2	0	0	77	45	39
Total	12	2	17	245	1554	3265	2190	611	123	21	10	2	1	8053		
%	0.1%	0.0%	0.2%	3.0%	19.3%	40.5%	27.2%	7.6%	1.5%	0.3%	0.1%	0.0%	0.0%			
AM Peak	09:00	10:00	04:00	11:00	10:00	08:00	07:00	08:00	08:00	07:00	05:00		09:00	08:00		
Vol.	2	2	1	18	90	190	156	59	14	3	1		1	476		
PM Peak	13:00		19:00	15:00	15:00	17:00	16:00	14:00	14:00	13:00	23:00	21:00		17:00		
Vol.	1		7	35	168	371	224	50	9	2	2	2		786		

Stats
15th Percentile : 31 MPH
50th Percentile : 37 MPH
85th Percentile : 42 MPH
95th Percentile : 46 MPH

Mean Speed(Average) : 38 MPH
10 MPH Pace Speed : 35-44 MPH
Number in Pace : 5455
Percent in Pace : 67.7%
Number of Vehicles > 30 MPH : 7466
Percent of Vehicles > 30 MPH : 92.7%

Hammond Pond Parkway (SB)
south of Beacon Street
City, State: Newton, MA
Client: BSC/ S.Offei-Addo



46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

196789 A SB Speed
Site Code: TBD

SB	Start Time	14	15	20	25	30	35	40	45	50	55	60	65	70	Total	85th Perce	Avera (Mean
		14	19	24	29	34	39	44	49	54	59	64	69	9999			
03/14/																	
19	0	0	0	1	10	18	7	1	1	0	0	0	0	0	38	41	37
01:00	0	0	0	0	5	0	3	4	1	0	0	0	0	0	13	47	40
02:00	0	1	0	0	1	5	1	1	0	0	1	0	0	0	10	46	39
03:00	0	0	0	0	3	3	7	1	0	0	0	0	0	0	14	43	39
04:00	0	0	2	9	18	24	12	5	1	0	0	0	0	0	71	42	36
05:00	0	0	1	0	13	27	23	1	2	0	0	0	0	0	67	42	38
06:00	0	0	0	4	26	72	48	20	3	2	0	0	0	0	175	43	39
07:00	1	0	1	13	69	182	144	53	8	1	0	0	0	0	472	43	39
08:00	2	0	1	11	84	208	160	36	13	2	0	0	0	0	517	43	39
09:00	0	0	1	4	73	149	122	33	5	0	0	0	0	0	387	43	39
10:00	0	0	0	8	59	164	124	37	4	1	1	0	0	0	398	43	39
11:00	0	0	0	10	115	180	101	34	10	0	0	0	0	0	450	42	38
12 PM	0	0	0	9	109	223	127	36	4	1	0	0	0	0	509	42	38
13:00	1	0	8	15	91	194	140	37	3	1	1	0	0	0	491	42	38
14:00	0	0	0	18	108	264	168	33	9	1	0	0	0	0	601	42	38
15:00	0	0	0	21	133	296	205	36	11	1	0	0	0	0	703	42	38
16:00	1	0	1	21	121	287	145	48	15	1	0	0	0	0	640	42	38
17:00	0	0	0	22	160	308	232	55	7	3	2	0	0	0	789	42	38
18:00	0	0	0	26	163	295	172	30	12	2	1	0	0	0	701	42	37
19:00	1	0	2	18	130	195	102	23	4	2	0	0	0	0	477	41	37
20:00	0	1	1	16	71	157	75	15	6	0	0	0	0	0	342	41	37
21:00	0	1	0	8	69	95	33	14	0	1	0	0	0	0	221	41	36
22:00	0	0	1	16	34	63	38	20	0	1	0	1	0	0	174	43	38
23:00	0	0	1	4	9	28	14	5	0	0	0	0	0	0	61	42	37
Total	6	3	20	254	1674	3437	2203	578	119	20	6	1	0	0	8321		
%	0.1%	0.0%	0.2%	3.1%	20.1%	41.3%	26.5%	6.9%	1.4%	0.2%	0.1%	0.0%	0.0%	0.0%			
AM Peak	08:00	02:00	04:00	07:00	11:00	08:00	08:00	07:00	08:00	06:00	02:00				08:00		
Vol.	2	1	2	13	115	208	160	53	13	2	1				517		
PM Peak	13:00	20:00	13:00	18:00	18:00	17:00	17:00	17:00	16:00	17:00	17:00	22:00			17:00		
Vol.	1	1	8	26	163	308	232	55	15	3	2	1			789		

Stats
15th Percentile : 31 MPH
50th Percentile : 37 MPH
85th Percentile : 42 MPH
95th Percentile : 46 MPH

Mean Speed(Average) : 38 MPH
10 MPH Pace Speed : 35-44 MPH
Number in Pace : 5640
Percent in Pace : 67.8%
Number of Vehicles > 30 MPH : 7703
Percent of Vehicles > 30 MPH : 92.6%

Hammond Pond Parkway (SB)
south of Beacon Street
City, State: Newton, MA
Client: BSC/ S.Offei-Addo



46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

196789 A SB Speed
Site Code: TBD

SB

Start Time	1 14	15 19	20 24	25 29	30 34	35 39	40 44	45 49	50 54	55 59	60 64	65 69	70 9999	Total	85th Perce	Avera (Mean
03/15/ 19	0	0	1	4	8	12	7	3	0	2	0	0	0	37	43	37
01:00	0	0	1	2	2	8	5	1	2	0	0	0	1	22	43	38
02:00	0	0	0	1	3	4	1	0	0	0	0	0	0	9	38	35
03:00	0	0	0	2	1	4	2	0	0	1	0	0	0	10	42	38
04:00	0	0	0	0	4	3	3	1	0	0	0	0	0	11	42	37
05:00	0	0	1	0	16	26	21	6	0	0	0	0	0	70	42	38
06:00	0	0	0	10	52	73	47	24	4	1	0	0	0	211	43	38
07:00	0	0	0	11	75	206	107	28	8	2	0	0	0	437	42	38
08:00	1	0	2	5	71	200	133	42	9	3	0	0	0	466	43	39
09:00	0	0	0	14	101	187	105	27	5	0	1	0	0	440	42	38
10:00	0	0	0	10	83	188	104	31	6	0	0	1	0	423	42	38
11:00	0	18	39	22	95	213	126	30	9	3	1	2	0	558	42	36
12 PM	0	0	0	15	119	198	145	32	3	1	0	0	0	513	42	38
13:00	0	0	4	21	118	250	142	35	4	1	0	0	0	575	42	37
14:00	0	0	2	10	123	268	145	26	9	1	0	0	0	584	42	38
15:00	0	0	3	23	133	288	228	53	10	0	1	0	0	739	42	38
16:00	0	0	0	17	132	292	179	43	8	3	0	0	0	674	42	38
17:00	4	0	1	23	137	339	175	36	5	2	0	0	0	722	42	37
18:00	1	0	3	25	144	255	148	29	4	2	0	0	0	611	42	37
19:00	0	0	1	18	122	200	83	17	3	0	0	0	0	444	41	37
20:00	0	0	1	24	108	118	55	6	2	0	0	0	0	314	40	36
21:00	0	0	1	9	67	70	43	3	3	0	0	1	0	197	41	36
22:00	0	0	2	11	68	62	27	7	3	1	0	0	0	181	41	36
23:00	0	0	2	7	30	47	20	4	3	0	0	0	0	113	41	36
Total	6	18	64	284	1812	3511	2051	484	100	23	3	4	1	8361		
%	0.1%	0.2%	0.8%	3.4%	21.7%	42.0%	24.5%	5.8%	1.2%	0.3%	0.0%	0.0%	0.0%			
AM Peak	08:00	11:00	11:00	11:00	09:00	11:00	08:00	08:00	08:00	08:00	09:00	11:00	01:00	11:00		
Vol.	1	18	39	22	101	213	133	42	9	3	1	2	1	558		
PM Peak	17:00		13:00	18:00	18:00	17:00	15:00	15:00	15:00	16:00	15:00	21:00		15:00		
Vol.	4		4	25	144	339	228	53	10	3	1	1		739		

Stats
15th Percentile : 31 MPH
50th Percentile : 36 MPH
85th Percentile : 42 MPH
95th Percentile : 46 MPH

Mean Speed(Average) : 37 MPH
10 MPH Pace Speed : 35-44 MPH
Number in Pace : 5562
Percent in Pace : 66.5%
Number of Vehicles > 30 MPH : 7627
Percent of Vehicles > 30 MPH : 91.2%

Hammond Pond Parkway (SB)
south of Beacon Street
City, State: Newton, MA
Client: BSC/ S.Offei-Addo



46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

196789 A SB Speed
Site Code: TBD

SB

Start Time	1 14	15 19	20 24	25 29	30 34	35 39	40 44	45 49	50 54	55 59	60 64	65 69	70 9999	Total	85th Perce	Avera (Mean
03/16/																
19	0	0	0	2	28	21	9	4	0	1	0	0	0	65	41	36
01:00	0	0	0	6	11	8	6	0	3	0	0	0	0	34	42	36
02:00	0	0	1	2	8	6	5	3	1	0	0	0	0	26	44	37
03:00	0	0	0	2	6	3	4	1	1	0	0	0	0	17	43	37
04:00	0	0	0	3	4	4	1	0	0	0	0	0	0	12	37	33
05:00	0	0	0	1	2	6	4	2	1	1	0	0	0	17	47	40
06:00	0	0	1	4	11	18	9	2	1	0	0	0	0	46	41	36
07:00	0	0	0	2	19	33	32	19	6	2	0	0	0	113	46	40
08:00	0	0	0	2	23	85	71	24	7	2	0	0	2	216	44	40
09:00	2	0	1	8	49	86	100	29	16	2	3	1	0	297	45	40
10:00	2	0	0	10	43	192	138	40	19	2	1	0	0	447	43	39
11:00	0	0	0	2	90	203	157	53	13	1	0	0	0	519	43	39
12 PM	0	0	0	9	93	216	181	61	12	3	3	0	0	578	43	39
13:00	0	0	2	13	80	247	201	82	23	3	2	0	0	653	44	40
14:00	1	0	2	13	83	193	187	82	10	7	0	1	1	580	44	40
15:00	0	0	0	9	93	214	186	84	12	2	0	0	0	600	44	39
16:00	1	0	2	12	58	168	195	53	19	4	1	0	0	513	44	40
17:00	0	0	0	7	83	223	175	47	8	2	3	0	0	548	43	39
18:00	1	0	3	23	84	191	117	32	1	1	0	0	0	453	42	37
19:00	1	0	0	16	94	148	67	17	1	3	0	0	0	347	41	37
20:00	0	0	0	9	64	89	55	11	1	0	2	0	0	231	42	37
21:00	0	0	0	13	46	85	35	10	4	0	0	0	0	193	41	37
22:00	0	0	2	8	48	87	48	7	2	0	0	0	0	202	41	37
23:00	0	0	0	3	30	51	36	4	2	1	0	0	0	127	42	38
Total	8	0	14	179	1150	2577	2019	667	163	37	15	2	3	6834		
%	0.1%	0.0%	0.2%	2.6%	16.8%	37.7%	29.5%	9.8%	2.4%	0.5%	0.2%	0.0%	0.0%			
AM Peak	09:00		02:00	10:00	11:00	11:00	11:00	11:00	10:00	07:00	09:00	09:00	08:00	11:00		
Vol.	2		1	10	90	203	157	53	19	2	3	1	2	519		
PM Peak	14:00		18:00	18:00	19:00	13:00	13:00	15:00	13:00	14:00	12:00	14:00	14:00	13:00		
Vol.	1		3	23	94	247	201	84	23	7	3	1	1	653		

Stats
15th Percentile : 32 MPH
50th Percentile : 38 MPH
85th Percentile : 43 MPH
95th Percentile : 48 MPH

Mean Speed(Average) : 39 MPH
10 MPH Pace Speed : 35-44 MPH
Number in Pace : 4596
Percent in Pace : 67.3%
Number of Vehicles > 30 MPH : 6403
Percent of Vehicles > 30 MPH : 93.7%

Hammond Pond Parkway (SB)
south of Beacon Street
City, State: Newton, MA
Client: BSC/ S.Offei-Addo



46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

196789 A SB Speed
Site Code: TBD

SB

Start Time	14	15	20	25	30	35	40	45	50	55	60	65	70	Total	85th Perce	Avera (Mean
	14	19	24	29	34	39	44	49	54	59	64	69	9999			
03/17/																
19	0	0	0	3	27	14	18	1	0	1	0	0	0	64	41	36
01:00	0	0	0	0	9	12	7	3	1	0	0	0	0	32	43	38
02:00	0	0	1	3	3	13	6	2	0	0	0	0	0	28	42	37
03:00	0	0	0	1	2	6	2	0	0	1	0	0	0	12	41	38
04:00	0	0	0	0	4	2	0	1	0	0	1	1	0	9	62	42
05:00	0	0	0	1	5	5	5	0	0	1	0	0	0	17	42	38
06:00	0	0	0	4	11	17	6	4	2	1	0	0	0	45	44	38
07:00	0	0	0	0	14	46	32	9	8	1	0	0	0	110	44	40
08:00	0	0	2	6	22	54	50	16	5	0	0	0	0	155	43	39
09:00	0	0	0	3	15	74	69	25	8	1	0	0	0	195	44	40
10:00	0	0	0	4	23	133	100	32	10	2	0	0	0	304	43	40
11:00	0	0	0	5	63	174	129	59	4	2	0	0	0	436	43	39
12 PM	0	1	19	5	78	238	159	51	7	1	1	0	0	560	43	38
13:00	0	0	0	4	94	189	151	56	11	2	0	0	0	507	43	39
14:00	0	0	0	7	73	214	141	50	4	2	1	0	0	492	43	39
15:00	2	0	1	11	61	226	150	52	7	3	0	0	0	513	43	39
16:00	0	0	0	10	84	182	155	39	11	3	0	0	0	484	43	39
17:00	0	0	1	9	69	180	131	36	9	1	0	0	0	436	43	39
18:00	0	0	0	9	57	152	88	26	4	0	0	0	0	336	42	38
19:00	0	0	3	11	63	100	66	17	8	0	0	0	0	268	42	38
20:00	0	0	1	11	47	72	26	15	2	1	0	0	0	175	42	37
21:00	0	0	1	6	28	48	31	12	3	2	0	0	0	131	43	38
22:00	0	0	0	7	21	50	24	7	0	3	0	0	0	112	42	38
23:00	0	0	0	0	12	16	13	4	1	0	0	0	0	46	43	38
Total	2	1	29	120	885	2217	1559	517	105	28	3	1	0	5467		
%	0.0%	0.0%	0.5%	2.2%	16.2%	40.6%	28.5%	9.5%	1.9%	0.5%	0.1%	0.0%	0.0%			
AM Peak			08:00	08:00	11:00	11:00	11:00	11:00	10:00	10:00	04:00	04:00		11:00		
Vol.			2	6	63	174	129	59	10	2	1	1		436		
PM Peak	15:00	12:00	12:00	15:00	13:00	12:00	12:00	13:00	13:00	15:00	12:00			12:00		
Vol.	2	1	19	11	94	238	159	56	11	3	1			560		

Stats

15th Percentile :	32 MPH
50th Percentile :	37 MPH
85th Percentile :	43 MPH
95th Percentile :	47 MPH

Mean Speed(Average) :	39 MPH
10 MPH Pace Speed :	35-44 MPH
Number in Pace :	3776
Percent in Pace :	69.1%
Number of Vehicles > 30 MPH :	5138
Percent of Vehicles > 30 MPH :	94.0%

Hammond Pond Parkway (SB)
south of Beacon Street
City, State: Newton, MA
Client: BSC/ S.Offei-Addo



46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

196789 A SB Speed
Site Code: TBD

SB	Start Time	14	15	20	25	30	35	40	45	50	55	60	65	70	Total	85th Perce	Avera (Mean
		14	19	24	29	34	39	44	49	54	59	64	69	9999			
03/18/																	
19	0	0	0	1	10	7	5	2	1	0	0	0	0	0	26	43	37
01:00	0	0	0	0	4	4	2	2	0	0	0	0	0	0	12	44	38
02:00	0	0	1	0	3	0	1	0	1	0	0	0	0	0	6	49	35
03:00	0	0	0	1	1	2	2	2	1	1	0	0	0	0	10	51	42
04:00	0	0	0	0	1	3	1	1	1	0	0	0	0	0	7	48	41
05:00	0	0	0	2	14	25	24	7	1	0	0	0	0	0	73	43	39
06:00	0	0	0	6	38	69	63	19	7	1	0	0	0	0	204	43	39
07:00	0	0	0	4	38	132	107	35	12	2	1	0	0	0	331	44	40
08:00	0	0	0	3	30	151	162	63	10	1	0	0	0	0	420	44	40
09:00	0	0	0	3	49	143	116	35	4	3	1	0	0	0	354	43	39
10:00	0	0	0	7	41	149	95	41	6	1	1	0	0	0	341	43	39
11:00	0	0	0	8	64	160	132	41	7	2	1	0	0	0	415	43	39
12 PM	0	0	0	12	77	171	150	45	12	2	3	0	0	0	472	43	39
13:00	0	0	0	7	60	172	158	53	8	3	0	0	0	0	461	43	39
14:00	0	0	0	3	64	173	214	61	8	2	0	0	0	0	525	43	40
15:00	0	0	0	11	84	267	215	73	17	2	1	0	0	0	670	43	39
16:00	3	0	0	2	73	272	231	71	25	1	2	0	0	0	680	43	40
17:00	2	0	0	5	102	287	232	80	9	4	3	0	0	0	724	43	39
18:00	2	0	1	15	81	244	175	32	9	1	0	0	0	0	560	42	38
19:00	0	0	1	14	83	163	89	30	2	3	0	0	0	0	385	42	38
20:00	0	0	4	12	72	107	44	8	3	1	0	0	0	0	251	41	36
21:00	0	0	0	4	34	76	39	11	1	2	0	0	0	0	167	42	38
22:00	0	1	0	10	26	60	33	9	2	1	1	0	0	0	143	42	38
23:00	0	0	0	2	19	21	15	4	2	1	0	0	0	0	64	43	38
Total	7	1	7	132	1068	2858	2305	725	149	34	15	0	0	0	7301		
%	0.1%	0.0%	0.1%	1.8%	14.6%	39.1%	31.6%	9.9%	2.0%	0.5%	0.2%	0.0%	0.0%				
AM Peak			02:00	11:00	11:00	11:00	08:00	08:00	07:00	09:00	06:00				08:00		
Vol.			1	8	64	160	162	63	12	3	1				420		
PM Peak	16:00	22:00	20:00	18:00	17:00	17:00	17:00	17:00	16:00	17:00	12:00				17:00		
Vol.	3	1	4	15	102	287	232	80	25	4	3				724		

Stats
15th Percentile : 33 MPH
50th Percentile : 38 MPH
85th Percentile : 43 MPH
95th Percentile : 47 MPH

Mean Speed(Average) : 39 MPH
10 MPH Pace Speed : 35-44 MPH
Number in Pace : 5163
Percent in Pace : 70.7%
Number of Vehicles > 30 MPH : 6940
Percent of Vehicles > 30 MPH : 95.1%

PDI File #: **196901 A**
 Location: **N: Hobart Road S: Hammond Pond Parkway**
 Location: **E: Beacon Street W: Beacon Street**
 City, State: **Newton, MA**
 Client: **BSC/S.Offei-Addo**
 Site Code: **TBD**
 Count Date: **Saturday, April 27, 2019**
 Start Time: **11:00 AM**
 End Time: **2:00 PM**
 Class:



Cars and Heavy Vehicles (Combined)

	Hobart Road					Beacon Street					Hammond Pond Parkway					Beacon Street					Total
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	
11:00 AM	5	60	0	0	65	0	52	31	0	83	58	0	77	0	135	72	46	0	0	118	401
11:15 AM	10	63	0	0	73	0	55	21	0	76	63	0	90	0	153	63	62	0	0	125	427
11:30 AM	2	41	0	0	43	0	54	31	0	85	64	0	101	0	165	63	54	0	0	117	410
11:45 AM	9	53	0	0	62	0	74	23	0	97	64	0	90	0	154	82	64	0	0	146	459
Total	26	217	0	0	243	0	235	106	0	341	249	0	358	0	607	280	226	0	0	506	1697
12:00 PM	9	49	2	0	60	0	73	24	0	97	70	0	90	0	160	91	57	0	0	148	465
12:15 PM	7	62	2	0	71	0	72	33	0	105	79	0	88	0	167	53	69	0	0	122	465
12:30 PM	4	76	2	0	82	0	65	22	0	87	86	0	94	0	180	74	56	0	0	130	479
12:45 PM	4	53	0	0	57	0	61	34	0	95	68	0	127	0	195	83	55	0	0	138	485
Total	24	240	6	0	270	0	271	113	0	384	303	0	399	0	702	301	237	0	0	538	1894
1:00 PM	5	51	3	0	59	0	66	35	0	101	76	0	101	0	177	74	52	0	0	126	463
1:15 PM	6	50	2	0	58	0	73	34	0	107	81	0	103	0	184	77	56	0	0	133	482
1:30 PM	8	60	2	0	70	0	75	30	0	105	88	0	108	0	196	71	61	0	0	132	503
1:45 PM	3	70	0	0	73	0	75	27	0	102	84	0	116	0	200	87	52	0	0	139	514
Total	22	231	7	0	260	0	289	126	0	415	329	0	428	0	757	309	221	0	0	530	1962
Grand Total	72	688	13	0	773	0	795	345	0	1140	881	0	1185	0	2066	890	684	0	0	1574	5553
Approach %	9.3	89.0	1.7	0.0		0.0	69.7	30.3	0.0		42.6	0.0	57.4	0.0		56.5	43.5	0.0	0.0		
Total %	1.3	12.4	0.2	0.0	13.9	0.0	14.3	6.2	0.0	20.5	15.9	0.0	21.3	0.0	37.2	16.0	12.3	0.0	0.0	28.3	
Exiting Leg Total	0					1578					1923					2052					5553
Cars	72	679	13	0	764	0	789	339	0	1128	873	0	1178	0	2051	885	681	0	0	1566	5509
% Cars	100.0	98.7	100.0	0.0	98.8	0.0	99.2	98.3	0.0	98.9	99.1	0.0	99.4	0.0	99.3	99.4	99.6	0.0	0.0	99.5	99.2
Exiting Leg Total	0					1567					1903					2039					5509
Heavy Vehicles	0	9	0	0	9	0	6	6	0	12	8	0	7	0	15	5	3	0	0	8	44
% Heavy Vehicles	0.0	1.3	0.0	0.0	1.2	0.0	0.8	1.7	0.0	1.1	0.9	0.0	0.6	0.0	0.7	0.6	0.4	0.0	0.0	0.5	0.8
Exiting Leg Total	0					11					20					13					44

Peak Hour Analysis from 11:00 AM to 02:00 PM begins at:

1:00 PM	Hobart Road					Beacon Street					Hammond Pond Parkway					Beacon Street					Total
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	
1:00 PM	5	51	3	0	59	0	66	35	0	101	76	0	101	0	177	74	52	0	0	126	463
1:15 PM	6	50	2	0	58	0	73	34	0	107	81	0	103	0	184	77	56	0	0	133	482
1:30 PM	8	60	2	0	70	0	75	30	0	105	88	0	108	0	196	71	61	0	0	132	503
1:45 PM	3	70	0	0	73	0	75	27	0	102	84	0	116	0	200	87	52	0	0	139	514
Total Volume	22	231	7	0	260	0	289	126	0	415	329	0	428	0	757	309	221	0	0	530	1962
% Approach Total	8.5	88.8	2.7	0.0		0.0	69.6	30.4	0.0		43.5	0.0	56.5	0.0		58.3	41.7	0.0	0.0		
PHF	0.688	0.825	0.583	0.000	0.890	0.000	0.963	0.900	0.000	0.970	0.935	0.000	0.922	0.000	0.946	0.888	0.906	0.000	0.000	0.953	0.954
Cars	22	227	7	0	256	0	288	126	0	414	326	0	425	0	751	306	220	0	0	526	1947
Cars %	100.0	98.3	100.0	0.0	98.5	0.0	99.7	100.0	0.0	99.8	99.1	0.0	99.3	0.0	99.2	99.0	99.5	0.0	0.0	99.2	99.2
Heavy Vehicles	0	4	0	0	4	0	1	0	0	1	3	0	3	0	6	3	1	0	0	4	15
Heavy Vehicles %	0.0	1.7	0.0	0.0	1.5	0.0	0.3	0.0	0.0	0.2	0.9	0.0	0.7	0.0	0.8	1.0	0.5	0.0	0.0	0.8	0.8
Cars Enter Leg	22	227	7	0	256	0	288	126	0	414	326	0	425	0	751	306	220	0	0	526	1947
Heavy Enter Leg	0	4	0	0	4	0	1	0	0	1	3	0	3	0	6	3	1	0	0	4	15
Total Entering Leg	22	231	7	0	260	0	289	126	0	415	329	0	428	0	757	309	221	0	0	530	1962
Cars Exiting Leg	0					553					659					735					1947
Heavy Exiting Leg	0					4					7					4					15
Total Exiting Leg	0					557					666					739					1962

PDI File #: **196901 AA**
 Location: **N: Hobart Road S: Hammond Pond Parkway**
 Location: **E: Beacon Street W: Beacon Street**
 City, State: **Newton, MA**
 Client: **BSC/S.Offei-Addo**
 Site Code: **TBD**
 Count Date: **Tuesday, April 30, 2019**
 Start Time: **7:00 AM**
 End Time: **9:00 AM**
 Class:



Cars and Heavy Vehicles (Combined)

	Hobart Road					Beacon Street					Hammond Pond Parkway					Beacon Street					Total
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	
7:00 AM	4	40	3	0	47	0	34	18	0	52	142	0	93	0	235	43	86	0	0	129	463
7:15 AM	7	49	5	0	61	0	78	24	0	102	161	0	116	0	277	36	117	0	0	153	593
7:30 AM	9	65	3	0	77	0	103	14	0	117	178	0	116	0	294	46	122	0	0	168	656
7:45 AM	7	87	2	0	96	0	128	24	0	152	191	0	111	0	302	48	117	0	0	165	715
Total	27	241	13	0	281	0	343	80	0	423	672	0	436	0	1108	173	442	0	0	615	2427
8:00 AM	15	59	4	0	78	0	128	23	0	151	168	0	129	0	297	44	113	0	0	157	683
8:15 AM	10	44	2	0	56	0	85	12	0	97	137	0	117	0	254	49	96	0	0	145	552
8:30 AM	13	45	7	0	65	0	88	23	0	111	139	0	121	0	260	45	93	0	0	138	574
8:45 AM	10	60	6	0	76	0	78	19	0	97	139	0	110	0	249	53	104	0	0	157	579
Total	48	208	19	0	275	0	379	77	0	456	583	0	477	0	1060	191	406	0	0	597	2388
Grand Total	75	449	32	0	556	0	722	157	0	879	1255	0	913	0	2168	364	848	0	0	1212	4815
Approach %	13.5	80.8	5.8	0.0		0.0	82.1	17.9	0.0		57.9	0.0	42.1	0.0		30.0	70.0	0.0	0.0		
Total %	1.6	9.3	0.7	0.0	11.5	0.0	15.0	3.3	0.0	18.3	26.1	0.0	19.0	0.0	45.0	7.6	17.6	0.0	0.0	25.2	
Exiting Leg Total	0					2135					970					1710					4815
Cars	73	443	29	0	545	0	693	153	0	846	1238	0	900	0	2138	354	826	0	0	1180	4709
% Cars	97.3	98.7	90.6	0.0	98.0	0.0	96.0	97.5	0.0	96.2	98.6	0.0	98.6	0.0	98.6	97.3	97.4	0.0	0.0	97.4	97.8
Exiting Leg Total	0					2093					950					1666					4709
Heavy Vehicles	2	6	3	0	11	0	29	4	0	33	17	0	13	0	30	10	22	0	0	32	106
% Heavy Vehicles	2.7	1.3	9.4	0.0	2.0	0.0	4.0	2.5	0.0	3.8	1.4	0.0	1.4	0.0	1.4	2.7	2.6	0.0	0.0	2.6	2.2
Exiting Leg Total	0					42					20					44					106

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:15 AM	Hobart Road					Beacon Street					Hammond Pond Parkway					Beacon Street					Total
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	
7:15 AM	7	49	5	0	61	0	78	24	0	102	161	0	116	0	277	36	117	0	0	153	593
7:30 AM	9	65	3	0	77	0	103	14	0	117	178	0	116	0	294	46	122	0	0	168	656
7:45 AM	7	87	2	0	96	0	128	24	0	152	191	0	111	0	302	48	117	0	0	165	715
8:00 AM	15	59	4	0	78	0	128	23	0	151	168	0	129	0	297	44	113	0	0	157	683
Total Volume	38	260	14	0	312	0	437	85	0	522	698	0	472	0	1170	174	469	0	0	643	2647
% Approach Total	12.2	83.3	4.5	0.0		0.0	83.7	16.3	0.0		59.7	0.0	40.3	0.0		27.1	72.9	0.0	0.0		
PHF	0.633	0.747	0.700	0.000	0.813	0.000	0.854	0.885	0.000	0.859	0.914	0.000	0.915	0.000	0.969	0.906	0.961	0.000	0.000	0.957	0.926
Cars	36	256	11	0	303	0	422	85	0	507	688	0	464	0	1152	171	457	0	0	628	2590
Cars %	94.7	98.5	78.6	0.0	97.1	0.0	96.6	100.0	0.0	97.1	98.6	0.0	98.3	0.0	98.5	98.3	97.4	0.0	0.0	97.7	97.8
Heavy Vehicles	2	4	3	0	9	0	15	0	0	15	10	0	8	0	18	3	12	0	0	15	57
Heavy Vehicles %	5.3	1.5	21.4	0.0	2.9	0.0	3.4	0.0	0.0	2.9	1.4	0.0	1.7	0.0	1.5	1.7	2.6	0.0	0.0	2.3	2.2
Cars Enter Leg	36	256	11	0	303	0	422	85	0	507	688	0	464	0	1152	171	457	0	0	628	2590
Heavy Enter Leg	2	4	3	0	9	0	15	0	0	15	10	0	8	0	18	3	12	0	0	15	57
Total Entering Leg	38	260	14	0	312	0	437	85	0	522	698	0	472	0	1170	174	469	0	0	643	2647
Cars Exiting Leg	0					1156					512					922					2590
Heavy Exiting Leg	0					25					7					25					57
Total Exiting Leg	0					1181					519					947					2647

PDI File #: **196901 AAA**
 Location: **N: Hobart Road S: Hammond Pond Parkway**
 Location: **E: Beacon Street W: Beacon Street**
 City, State: **Newton, MA**
 Client: **BSC/S.Offei-Addo**
 Site Code: **TBD**
 Count Date: **Tuesday, April 30, 2019**
 Start Time: **4:00 PM**
 End Time: **6:00 PM**
 Class:



Cars and Heavy Vehicles (Combined)

	Hobart Road					Beacon Street					Hammond Pond Parkway					Beacon Street					Total
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	
4:00 PM	15	101	2	0	118	0	97	34	0	131	84	0	107	0	191	67	63	0	0	130	570
4:15 PM	15	86	2	0	103	0	126	26	0	152	87	0	107	0	194	73	60	0	0	133	582
4:30 PM	14	76	0	0	90	0	120	32	0	152	103	0	98	0	201	60	68	0	0	128	571
4:45 PM	10	57	0	0	67	0	128	42	0	170	96	0	110	0	206	63	70	0	0	133	576
Total	54	320	4	0	378	0	471	134	0	605	370	0	422	0	792	263	261	0	0	524	2299
5:00 PM	18	81	0	0	99	0	110	36	0	146	88	0	121	0	209	56	90	0	0	146	600
5:15 PM	13	94	3	0	110	0	124	42	0	166	83	0	123	0	206	79	94	0	0	173	655
5:30 PM	14	103	4	0	121	0	101	37	0	138	111	0	120	0	231	73	86	0	0	159	649
5:45 PM	8	76	0	0	84	0	107	40	0	147	117	0	134	0	251	65	111	0	0	176	658
Total	53	354	7	0	414	0	442	155	0	597	399	0	498	0	897	273	381	0	0	654	2562
Grand Total	107	674	11	0	792	0	913	289	0	1202	769	0	920	0	1689	536	642	0	0	1178	4861
Approach %	13.5	85.1	1.4	0.0		0.0	76.0	24.0	0.0		45.5	0.0	54.5	0.0		45.5	54.5	0.0	0.0		
Total %	2.2	13.9	0.2	0.0	16.3	0.0	18.8	5.9	0.0	24.7	15.8	0.0	18.9	0.0	34.7	11.0	13.2	0.0	0.0	24.2	
Exiting Leg Total	0					1422					1499					1940					4861
Cars	106	674	11	0	791	0	901	286	0	1187	767	0	906	0	1673	529	636	0	0	1165	4816
% Cars	99.1	100.0	100.0	0.0	99.9	0.0	98.7	99.0	0.0	98.8	99.7	0.0	98.5	0.0	99.1	98.7	99.1	0.0	0.0	98.9	99.1
Exiting Leg Total	0					1414					1489					1913					4816
Heavy Vehicles	1	0	0	0	1	0	12	3	0	15	2	0	14	0	16	7	6	0	0	13	45
% Heavy Vehicles	0.9	0.0	0.0	0.0	0.1	0.0	1.3	1.0	0.0	1.2	0.3	0.0	1.5	0.0	0.9	1.3	0.9	0.0	0.0	1.1	0.9
Exiting Leg Total	0					8					10					27					45

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

5:00 PM	Hobart Road					Beacon Street					Hammond Pond Parkway					Beacon Street					Total
	from North					from East					from South					from West					
	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	Right	Thru	Left	U-Turn	Total	
5:00 PM	18	81	0	0	99	0	110	36	0	146	88	0	121	0	209	56	90	0	0	146	600
5:15 PM	13	94	3	0	110	0	124	42	0	166	83	0	123	0	206	79	94	0	0	173	655
5:30 PM	14	103	4	0	121	0	101	37	0	138	111	0	120	0	231	73	86	0	0	159	649
5:45 PM	8	76	0	0	84	0	107	40	0	147	117	0	134	0	251	65	111	0	0	176	658
Total Volume	53	354	7	0	414	0	442	155	0	597	399	0	498	0	897	273	381	0	0	654	2562
% Approach Total	12.8	85.5	1.7	0.0		0.0	74.0	26.0	0.0		44.5	0.0	55.5	0.0		41.7	58.3	0.0	0.0		
PHF	0.736	0.859	0.438	0.000	0.855	0.000	0.891	0.923	0.000	0.899	0.853	0.000	0.929	0.000	0.893	0.864	0.858	0.000	0.000	0.929	0.973
Cars	52	354	7	0	413	0	437	153	0	590	399	0	488	0	887	270	377	0	0	647	2537
Cars %	98.1	100.0	100.0	0.0	99.8	0.0	98.9	98.7	0.0	98.8	100.0	0.0	98.0	0.0	98.9	98.9	99.0	0.0	0.0	98.9	99.0
Heavy Vehicles	1	0	0	0	1	0	5	2	0	7	0	0	10	0	10	3	4	0	0	7	25
Heavy Vehicles %	1.9	0.0	0.0	0.0	0.2	0.0	1.1	1.3	0.0	1.2	0.0	0.0	2.0	0.0	1.1	1.1	1.0	0.0	0.0	1.1	1.0
Cars Enter Leg	52	354	7	0	413	0	437	153	0	590	399	0	488	0	887	270	377	0	0	647	2537
Heavy Enter Leg	1	0	0	0	1	0	5	2	0	7	0	0	10	0	10	3	4	0	0	7	25
Total Entering Leg	53	354	7	0	414	0	442	155	0	597	399	0	498	0	897	273	381	0	0	654	2562
Cars Exiting Leg	0					783					777					977					2537
Heavy Exiting Leg	0					4					5					16					25
Total Exiting Leg	0					787					782					993					2562

PDI File #: **196901 B**
 Location: **N: Hammond Pond Parkway S: Hammond Pond Parkway**
 Location: **W: 300 Hammond Pond Parkway**
 City, State: **Newton, MA**
 Client: **BSC/S.Offei-Addo**
 Site Code: **TBD**
 Count Date: **Tuesday, April 30, 2019**
 Start Time: **7:00 AM**
 End Time: **9:00 AM**
 Class:



Cars and Heavy Vehicles (Combined)

	Hammond Pond Parkway				Hammond Pond Parkway				300 Hammond Pond Parkway				Total
	from North				from South				from West				
	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	
7:00 AM	10	86	0	96	224	7	0	231	21	20	0	41	368
7:15 AM	10	104	0	114	278	10	0	288	10	10	0	20	422
7:30 AM	2	126	0	128	293	2	0	295	4	5	0	9	432
7:45 AM	2	163	0	165	314	1	0	315	12	4	0	16	496
Total	24	479	0	503	1109	20	0	1129	47	39	0	86	1718
8:00 AM	2	119	0	121	281	0	0	281	5	1	0	6	408
8:15 AM	2	118	0	120	280	0	0	280	1	1	0	2	402
8:30 AM	4	104	0	108	258	1	0	259	2	1	0	3	370
8:45 AM	7	134	0	141	228	0	0	228	0	0	0	0	369
Total	15	475	0	490	1047	1	0	1048	8	3	0	11	1549
Grand Total	39	954	0	993	2156	21	0	2177	55	42	0	97	3267
Approach %	3.9	96.1	0.0		99.0	1.0	0.0		56.7	43.3	0.0		
Total %	1.2	29.2	0.0	30.4	66.0	0.6	0.0	66.6	1.7	1.3	0.0	3.0	
Exiting Leg Total	2198				1009				60				3267
Cars	36	937	0	973	2130	20	0	2150	54	41	0	95	3218
% Cars	92.3	98.2	0.0	98.0	98.8	95.2	0.0	98.8	98.2	97.6	0.0	97.9	98.5
Exiting Leg Total	2171				991				56				3218
Heavy Vehicles	3	17	0	20	26	1	0	27	1	1	0	2	49
% Heavy Vehicles	7.7	1.8	0.0	2.0	1.2	4.8	0.0	1.2	1.8	2.4	0.0	2.1	1.5
Exiting Leg Total	27				18				4				49

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:15 AM	Hammond Pond Parkway				Hammond Pond Parkway				300 Hammond Pond Parkway				Total
	from North				from South				from West				
	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	
7:15 AM	10	104	0	114	278	10	0	288	10	10	0	20	422
7:30 AM	2	126	0	128	293	2	0	295	4	5	0	9	432
7:45 AM	2	163	0	165	314	1	0	315	12	4	0	16	496
8:00 AM	2	119	0	121	281	0	0	281	5	1	0	6	408
Total Volume	16	512	0	528	1166	13	0	1179	31	20	0	51	1758
% Approach Total	3.0	97.0	0.0		98.9	1.1	0.0		60.8	39.2	0.0		
PHF	0.400	0.785	0.000	0.800	0.928	0.325	0.000	0.936	0.646	0.500	0.000	0.638	0.886
Cars	16	506	0	522	1152	12	0	1164	30	19	0	49	1735
Cars %	100.0	98.8	0.0	98.9	98.8	92.3	0.0	98.7	96.8	95.0	0.0	96.1	98.7
Heavy Vehicles	0	6	0	6	14	1	0	15	1	1	0	2	23
Heavy Vehicles %	0.0	1.2	0.0	1.1	1.2	7.7	0.0	1.3	3.2	5.0	0.0	3.9	1.3
Cars Enter Leg	16	506	0	522	1152	12	0	1164	30	19	0	49	1735
Heavy Enter Leg	0	6	0	6	14	1	0	15	1	1	0	2	23
Total Entering Leg	16	512	0	528	1166	13	0	1179	31	20	0	51	1758
Cars Exiting Leg				1171				536				28	1735
Heavy Exiting Leg				15				7				1	23
Total Exiting Leg				1186				543				29	1758

PDI File #: **196901 B**
 Location: **N: Hammond Pond Parkway S: Hammond Pond Parkway**
 Location: **W: 300 Hammond Pond Parkway**
 City, State: **Newton, MA**
 Client: **BSC/S.Offei-Addo**
 Site Code: **TBD**
 Count Date: **Tuesday, April 30, 2019**
 Start Time: **4:00 PM**
 End Time: **6:00 PM**
 Class:



Cars and Heavy Vehicles (Combined)

	Hammond Pond Parkway				Hammond Pond Parkway				300 Hammond Pond Parkway				Total
	from North				from South				from West				
	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	
4:00 PM	3	198	0	201	186	0	0	186	10	3	0	13	400
4:15 PM	0	185	0	185	168	0	0	168	2	1	0	3	356
4:30 PM	0	177	0	177	186	0	0	186	1	1	0	2	365
4:45 PM	1	175	0	176	197	1	0	198	0	3	0	3	377
Total	4	735	0	739	737	1	0	738	13	8	0	21	1498
5:00 PM	0	176	0	176	221	0	0	221	0	0	0	0	397
5:15 PM	2	215	0	217	203	1	0	204	1	0	0	1	422
5:30 PM	1	208	0	209	231	0	0	231	2	1	0	3	443
5:45 PM	2	189	0	191	267	1	0	268	1	3	0	4	463
Total	5	788	0	793	922	2	0	924	4	4	0	8	1725
Grand Total	9	1523	0	1532	1659	3	0	1662	17	12	0	29	3223
Approach %	0.6	99.4	0.0		99.8	0.2	0.0		58.6	41.4	0.0		
Total %	0.3	47.3	0.0	47.5	51.5	0.1	0.0	51.6	0.5	0.4	0.0	0.9	
Exiting Leg Total				1671				1540				12	3223
Cars	9	1513	0	1522	1647	3	0	1650	16	12	0	28	3200
% Cars	100.0	99.3	0.0	99.3	99.3	100.0	0.0	99.3	94.1	100.0	0.0	96.6	99.3
Exiting Leg Total				1659				1529				12	3200
Heavy Vehicles	0	10	0	10	12	0	0	12	1	0	0	1	23
% Heavy Vehicles	0.0	0.7	0.0	0.7	0.7	0.0	0.0	0.7	5.9	0.0	0.0	3.4	0.7
Exiting Leg Total				12				11				0	23

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

5:00 PM	Hammond Pond Parkway				Hammond Pond Parkway				300 Hammond Pond Parkway				Total
	from North				from South				from West				
	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	
5:00 PM	0	176	0	176	221	0	0	221	0	0	0	0	397
5:15 PM	2	215	0	217	203	1	0	204	1	0	0	1	422
5:30 PM	1	208	0	209	231	0	0	231	2	1	0	3	443
5:45 PM	2	189	0	191	267	1	0	268	1	3	0	4	463
Total Volume	5	788	0	793	922	2	0	924	4	4	0	8	1725
% Approach Total	0.6	99.4	0.0		99.8	0.2	0.0		50.0	50.0	0.0		
PHF	0.625	0.916	0.000	0.914	0.863	0.500	0.000	0.862	0.500	0.333	0.000	0.500	0.931
Cars	5	785	0	790	912	2	0	914	4	4	0	8	1712
Cars %	100.0	99.6	0.0	99.6	98.9	100.0	0.0	98.9	100.0	100.0	0.0	100.0	99.2
Heavy Vehicles	0	3	0	3	10	0	0	10	0	0	0	0	13
Heavy Vehicles %	0.0	0.4	0.0	0.4	1.1	0.0	0.0	1.1	0.0	0.0	0.0	0.0	0.8
Cars Enter Leg	5	785	0	790	912	2	0	914	4	4	0	8	1712
Heavy Enter Leg	0	3	0	3	10	0	0	10	0	0	0	0	13
Total Entering Leg	5	788	0	793	922	2	0	924	4	4	0	8	1725
Cars Exiting Leg				916				789				7	1712
Heavy Exiting Leg				10				3				0	13
Total Exiting Leg				926				792				7	1725

PDI File #: **196901 C**
 Location: **N: Hammond Pond Parkway S: Hammond Pond Parkway**
 Location: **W: Mall Rear Driveway**
 City, State: **Newton, MA**
 Client: **BSC/S.Offei-Addo**
 Site Code: **TBD**
 Count Date: **Saturday, April 27, 2019**
 Start Time: **11:00 AM**
 End Time: **2:00 PM**
 Class:



Cars and Heavy Vehicles (Combined)

	Hammond Pond Parkway				Hammond Pond Parkway				Mall Rear Driveway				Total
	from North				from South				from West				
	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	
11:00 AM	51	89	0	140	124	19	0	143	23	19	0	42	325
11:15 AM	45	102	0	147	126	32	0	158	12	22	0	34	339
11:30 AM	52	74	0	126	134	24	0	158	12	27	0	39	323
11:45 AM	61	84	0	145	131	22	1	154	20	25	0	45	344
Total	209	349	0	558	515	97	1	613	67	93	0	160	1331
12:00 PM	62	112	0	174	124	25	0	149	22	36	0	58	381
12:15 PM	37	115	0	152	128	16	0	144	31	36	0	67	363
12:30 PM	52	121	0	173	137	32	0	169	31	40	0	71	413
12:45 PM	54	117	0	171	146	23	0	169	22	43	0	65	405
Total	205	465	0	670	535	96	0	631	106	155	0	261	1562
1:00 PM	56	101	0	157	142	20	0	162	26	37	0	63	382
1:15 PM	56	122	0	178	167	31	0	198	24	31	1	56	432
1:30 PM	58	118	0	176	164	24	0	188	35	28	0	63	427
1:45 PM	63	120	0	183	147	32	0	179	25	41	0	66	428
Total	233	461	0	694	620	107	0	727	110	137	1	248	1669
Grand Total	647	1275	0	1922	1670	300	1	1971	283	385	1	669	4562
Approach %	33.7	66.3	0.0		84.7	15.2	0.1		42.3	57.5	0.1		
Total %	14.2	27.9	0.0	42.1	36.6	6.6	0.0	43.2	6.2	8.4	0.0	14.7	
Exiting Leg Total				2055				1559				948	4562
Cars	643	1258	0	1901	1654	293	1	1948	282	383	1	666	4515
% Cars	99.4	98.7	0.0	98.9	99.0	97.7	100.0	98.8	99.6	99.5	100.0	99.6	99.0
Exiting Leg Total				2037				1541				937	4515
Heavy Vehicles	4	17	0	21	16	7	0	23	1	2	0	3	47
% Heavy Vehicles	0.6	1.3	0.0	1.1	1.0	2.3	0.0	1.2	0.4	0.5	0.0	0.4	1.0
Exiting Leg Total				18				18				11	47

Peak Hour Analysis from 11:00 AM to 02:00 PM begins at:

1:00 PM	Hammond Pond Parkway				Hammond Pond Parkway				Mall Rear Driveway				Total
	from North				from South				from West				
	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	
1:00 PM	56	101	0	157	142	20	0	162	26	37	0	63	382
1:15 PM	56	122	0	178	167	31	0	198	24	31	1	56	432
1:30 PM	58	118	0	176	164	24	0	188	35	28	0	63	427
1:45 PM	63	120	0	183	147	32	0	179	25	41	0	66	428
Total Volume	233	461	0	694	620	107	0	727	110	137	1	248	1669
% Approach Total	33.6	66.4	0.0		85.3	14.7	0.0		44.4	55.2	0.4		
PHF	0.925	0.945	0.000	0.948	0.928	0.836	0.000	0.918	0.786	0.835	0.250	0.939	0.966
Cars	232	456	0	688	612	106	0	718	110	136	1	247	1653
Cars %	99.6	98.9	0.0	99.1	98.7	99.1	0.0	98.8	100.0	99.3	100.0	99.6	99.0
Heavy Vehicles	1	5	0	6	8	1	0	9	0	1	0	1	16
Heavy Vehicles %	0.4	1.1	0.0	0.9	1.3	0.9	0.0	1.2	0.0	0.7	0.0	0.4	1.0
Cars Enter Leg	232	456	0	688	612	106	0	718	110	136	1	247	1653
Heavy Enter Leg	1	5	0	6	8	1	0	9	0	1	0	1	16
Total Entering Leg	233	461	0	694	620	107	0	727	110	137	1	248	1669
Cars Exiting Leg				748				566				339	1653
Heavy Exiting Leg				9				5				2	16
Total Exiting Leg				757				571				341	1669

PDI File #: **196901 CC**
 Location: **N: Hammond Pond Parkway S: Hammond Pond Parkway**
 Location: **W: Mall Rear Driveway**
 City, State: **Newton, MA**
 Client: **BSC/S.Offei-Addo**
 Site Code: **TBD**
 Count Date: **Tuesday, April 30, 2019**
 Start Time: **7:00 AM**
 End Time: **9:00 AM**
 Class:



Cars and Heavy Vehicles (Combined)

	Hammond Pond Parkway				Hammond Pond Parkway				Mall Rear Driveway				Total
	from North				from South				from West				
	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	
7:00 AM	12	88	0	100	226	13	0	239	3	9	0	12	351
7:15 AM	10	109	0	119	276	5	0	281	4	8	0	12	412
7:30 AM	5	126	0	131	287	7	0	294	3	7	0	10	435
7:45 AM	26	149	0	175	303	6	0	309	3	17	0	20	504
Total	53	472	0	525	1092	31	0	1123	13	41	0	54	1702
8:00 AM	17	108	0	125	269	6	0	275	3	9	0	12	412
8:15 AM	14	105	0	119	258	15	0	273	8	11	0	19	411
8:30 AM	15	85	0	100	247	16	0	263	5	8	0	13	376
8:45 AM	18	121	0	139	216	18	0	234	1	10	0	11	384
Total	64	419	0	483	990	55	0	1045	17	38	0	55	1583
Grand Total	117	891	0	1008	2082	86	0	2168	30	79	0	109	3285
Approach %	11.6	88.4	0.0		96.0	4.0	0.0		27.5	72.5	0.0		
Total %	3.6	27.1	0.0	30.7	63.4	2.6	0.0	66.0	0.9	2.4	0.0	3.3	
Exiting Leg Total	2161				921				203				3285
Cars	115	876	0	991	2059	66	0	2125	28	75	0	103	3219
% Cars	98.3	98.3	0.0	98.3	98.9	76.7	0.0	98.0	93.3	94.9	0.0	94.5	98.0
Exiting Leg Total	2134				904				181				3219
Heavy Vehicles	2	15	0	17	23	20	0	43	2	4	0	6	66
% Heavy Vehicles	1.7	1.7	0.0	1.7	1.1	23.3	0.0	2.0	6.7	5.1	0.0	5.5	2.0
Exiting Leg Total	27				17				22				66

Peak Hour Analysis from 07:00 AM to 09:00 AM begins at:

7:15 AM	Hammond Pond Parkway				Hammond Pond Parkway				Mall Rear Driveway				Total
	from North				from South				from West				
	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	
7:15 AM	10	109	0	119	276	5	0	281	4	8	0	12	412
7:30 AM	5	126	0	131	287	7	0	294	3	7	0	10	435
7:45 AM	26	149	0	175	303	6	0	309	3	17	0	20	504
8:00 AM	17	108	0	125	269	6	0	275	3	9	0	12	412
Total Volume	58	492	0	550	1135	24	0	1159	13	41	0	54	1763
% Approach Total	10.5	89.5	0.0		97.9	2.1	0.0		24.1	75.9	0.0		
PHF	0.558	0.826	0.000	0.786	0.936	0.857	0.000	0.938	0.813	0.603	0.000	0.675	0.875
Cars	57	486	0	543	1121	16	0	1137	13	39	0	52	1732
Cars %	98.3	98.8	0.0	98.7	98.8	66.7	0.0	98.1	100.0	95.1	0.0	96.3	98.2
Heavy Vehicles	1	6	0	7	14	8	0	22	0	2	0	2	31
Heavy Vehicles %	1.7	1.2	0.0	1.3	1.2	33.3	0.0	1.9	0.0	4.9	0.0	3.7	1.8
Cars Enter Leg	57	486	0	543	1121	16	0	1137	13	39	0	52	1732
Heavy Enter Leg	1	6	0	7	14	8	0	22	0	2	0	2	31
Total Entering Leg	58	492	0	550	1135	24	0	1159	13	41	0	54	1763
Cars Exiting Leg				1160				499				73	1732
Heavy Exiting Leg				16				6				9	31
Total Exiting Leg				1176				505				82	1763

PDI File #: **196901 CCC**
 Location: **N: Hammond Pond Parkway S: Hammond Pond Parkway**
 Location: **W: Mall Rear Driveway**
 City, State: **Newton, MA**
 Client: **BSC/S.Offei-Addo**
 Site Code: **TBD**
 Count Date: **Tuesday, April 30, 2019**
 Start Time: **4:00 PM**
 End Time: **6:00 PM**
 Class:



Cars and Heavy Vehicles (Combined)

	Hammond Pond Parkway				Hammond Pond Parkway				Mall Rear Driveway				Total
	from North				from South				from West				
	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	
4:00 PM	38	175	0	213	165	20	0	185	26	26	0	52	450
4:15 PM	30	159	0	189	169	20	0	189	17	20	0	37	415
4:30 PM	39	141	0	180	158	23	0	181	27	32	0	59	420
4:45 PM	25	149	0	174	182	18	0	200	17	29	0	46	420
Total	132	624	0	756	674	81	0	755	87	107	0	194	1705
5:00 PM	23	154	0	177	178	17	0	195	23	37	0	60	432
5:15 PM	28	175	0	203	175	12	0	187	21	28	0	49	439
5:30 PM	33	199	0	232	207	16	0	223	27	29	0	56	511
5:45 PM	34	191	0	225	239	12	0	251	21	23	0	44	520
Total	118	719	0	837	799	57	0	856	92	117	0	209	1902
Grand Total	250	1343	0	1593	1473	138	0	1611	179	224	0	403	3607
Approach %	15.7	84.3	0.0		91.4	8.6	0.0		44.4	55.6	0.0		
Total %	6.9	37.2	0.0	44.2	40.8	3.8	0.0	44.7	5.0	6.2	0.0	11.2	
Exiting Leg Total	1697				1522				388				3607
Cars	250	1334	0	1584	1455	126	0	1581	176	223	0	399	3564
% Cars	100.0	99.3	0.0	99.4	98.8	91.3	0.0	98.1	98.3	99.6	0.0	99.0	98.8
Exiting Leg Total	1678				1510				376				3564
Heavy Vehicles	0	9	0	9	18	12	0	30	3	1	0	4	43
% Heavy Vehicles	0.0	0.7	0.0	0.6	1.2	8.7	0.0	1.9	1.7	0.4	0.0	1.0	1.2
Exiting Leg Total	19				12				12				43

Peak Hour Analysis from 04:00 PM to 06:00 PM begins at:

5:00 PM	Hammond Pond Parkway				Hammond Pond Parkway				Mall Rear Driveway				Total
	from North				from South				from West				
	Right	Thru	U-Turn	Total	Thru	Left	U-Turn	Total	Right	Left	U-Turn	Total	
5:00 PM	23	154	0	177	178	17	0	195	23	37	0	60	432
5:15 PM	28	175	0	203	175	12	0	187	21	28	0	49	439
5:30 PM	33	199	0	232	207	16	0	223	27	29	0	56	511
5:45 PM	34	191	0	225	239	12	0	251	21	23	0	44	520
Total Volume	118	719	0	837	799	57	0	856	92	117	0	209	1902
% Approach Total	14.1	85.9	0.0		93.3	6.7	0.0		44.0	56.0	0.0		
PHF	0.868	0.903	0.000	0.902	0.836	0.838	0.000	0.853	0.852	0.791	0.000	0.871	0.914
Cars	118	715	0	833	791	51	0	842	91	117	0	208	1883
Cars %	100.0	99.4	0.0	99.5	99.0	89.5	0.0	98.4	98.9	100.0	0.0	99.5	99.0
Heavy Vehicles	0	4	0	4	8	6	0	14	1	0	0	1	19
Heavy Vehicles %	0.0	0.6	0.0	0.5	1.0	10.5	0.0	1.6	1.1	0.0	0.0	0.5	1.0
Cars Enter Leg	118	715	0	833	791	51	0	842	91	117	0	208	1883
Heavy Enter Leg	0	4	0	4	8	6	0	14	1	0	0	1	19
Total Entering Leg	118	719	0	837	799	57	0	856	92	117	0	209	1902
Cars Exiting Leg				908				806				169	1883
Heavy Exiting Leg				8				5				6	19
Total Exiting Leg				916				811				175	1902



PRECISION
D A T A
INDUSTRIES, LLC

46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

N/S: Hobart Road/ Hammond Pond Parkway
E/W: Beacon Street
City, State: Chestnut Hill, MA
Client: Toole Design/ J. Dempsey

File Name : 165337 A
Site Code : TBA
Start Date : 11/3/2016
Page No : 1

Groups Printed- Cars - Heavy Vehicles

	Hobart Road From North				Beacon Street From East				Hammond Pond Parkway From South				Beacon Street From West				Int. Total
Start Time	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	
07:00 AM	7	34	3	0	0	46	12	0	84	0	110	0	27	118	0	0	441
07:15 AM	8	42	2	0	0	80	21	0	140	0	136	0	30	117	0	0	576
07:30 AM	7	68	1	0	0	88	26	0	170	0	133	0	40	111	0	0	644
07:45 AM	9	79	6	0	0	111	35	0	183	0	127	0	50	118	0	0	718
Total	31	223	12	0	0	325	94	0	577	0	506	0	147	464	0	0	2379
08:00 AM	7	56	2	0	0	98	34	0	181	0	143	0	44	100	0	0	665
08:15 AM	9	54	5	0	0	123	33	0	171	0	125	0	42	106	0	0	668
08:30 AM	9	40	4	0	0	88	29	0	139	0	154	0	51	110	0	0	624
08:45 AM	10	66	5	0	0	84	18	0	147	0	135	0	36	100	0	0	601
Total	35	216	16	0	0	393	114	0	638	0	557	0	173	416	0	0	2558
09:00 AM	3	54	1	0	0	57	20	0	137	0	110	0	29	99	0	0	510
09:15 AM	3	50	2	0	0	48	27	0	110	0	82	0	52	119	0	0	493
09:30 AM	5	43	4	0	0	71	21	0	95	0	93	0	42	93	0	0	467
09:45 AM	3	39	5	0	0	59	17	0	81	0	87	0	66	96	0	0	453
Total	14	186	12	0	0	235	85	0	423	0	372	0	189	407	0	0	1923
10:00 AM	3	35	2	0	0	53	16	0	65	0	69	0	54	92	0	0	389
10:15 AM	5	28	1	0	0	59	13	0	60	0	85	0	52	84	0	0	387
10:30 AM	1	32	1	0	0	52	24	0	58	0	90	0	44	59	0	0	361
10:45 AM	7	41	3	0	0	55	9	0	42	0	77	0	61	81	0	0	376
Total	16	136	7	0	0	219	62	0	225	0	321	0	211	316	0	0	1513
11:00 AM	5	34	4	0	0	56	26	0	42	0	71	0	47	46	0	0	331
11:15 AM	3	37	1	0	0	61	16	0	48	0	84	0	53	69	0	0	372
11:30 AM	2	29	6	0	0	69	38	0	54	0	88	0	47	66	0	0	399
11:45 AM	7	41	3	0	0	65	27	0	62	0	107	0	48	80	0	0	440
Total	17	141	14	0	0	251	107	0	206	0	350	0	195	261	0	0	1542
12:00 PM	9	40	4	0	0	75	24	0	58	1	87	0	49	61	0	0	408
12:15 PM	6	32	2	0	0	64	24	0	46	0	102	0	54	73	0	0	403
12:30 PM	6	53	0	0	0	81	24	0	37	0	100	0	67	52	0	0	420
12:45 PM	5	42	4	0	0	71	26	0	52	0	74	0	72	70	0	0	416
Total	26	167	10	0	0	291	98	0	193	1	363	0	242	256	0	0	1647
01:00 PM	3	43	0	0	0	80	25	0	59	0	79	0	75	75	0	0	439
01:15 PM	2	38	3	0	0	64	56	0	56	0	73	0	45	59	0	0	396
01:30 PM	3	32	2	0	0	71	37	0	66	0	105	0	69	64	0	0	449
01:45 PM	3	42	0	0	0	84	41	0	61	0	88	0	51	71	0	0	441
Total	11	155	5	0	0	299	159	0	242	0	345	0	240	269	0	0	1725
02:00 PM	4	39	5	0	0	81	36	0	61	0	91	0	50	70	0	0	437
02:15 PM	5	48	4	0	0	78	29	0	80	0	107	0	48	67	0	0	466
02:30 PM	7	44	4	0	0	89	31	0	90	0	112	0	55	63	0	0	495
02:45 PM	7	66	0	0	0	89	40	0	74	0	104	0	83	62	0	0	525
Total	23	197	13	0	0	337	136	0	305	0	414	0	236	262	0	0	1923
03:00 PM	10	68	5	0	0	94	32	0	87	0	117	0	77	57	0	0	547
03:15 PM	10	102	3	0	0	107	33	0	82	0	123	0	69	78	0	0	607
03:30 PM	11	73	2	0	0	63	48	0	83	0	125	0	69	64	0	0	538
03:45 PM	14	75	2	0	0	103	43	0	96	0	127	0	86	77	0	0	623
Total	45	318	12	0	0	367	156	0	348	0	492	0	301	276	0	0	2315
04:00 PM	8	77	1	0	0	112	46	0	89	0	117	0	81	100	0	0	631
04:15 PM	13	97	1	0	0	93	44	0	88	0	119	0	66	53	0	0	574
04:30 PM	15	72	5	0	0	115	41	0	77	0	103	0	75	87	0	0	590
04:45 PM	14	80	2	0	0	84	42	0	89	0	116	0	77	69	0	0	573
Total	50	326	9	0	0	404	173	0	343	0	455	0	299	309	0	0	2368



PRECISION
D A T A
INDUSTRIES, LLC

46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

N/S: Hobart Road/ Hammond Pond Parkway
E/W: Beacon Street
City, State: Chestnut Hill, MA
Client: Toole Design/ J. Dempsey

File Name : 165337 A
Site Code : TBA
Start Date : 11/3/2016
Page No : 2

Groups Printed- Cars - Heavy Vehicles

	Hobart Road From North				Beacon Street From East				Hammond Pond Parkway From South				Beacon Street From West				Int. Total
Start Time	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	
05:00 PM	16	111	1	0	0	102	43	0	87	0	110	0	72	90	0	0	632
05:15 PM	20	90	2	0	0	122	51	0	99	0	108	0	97	94	0	0	683
05:30 PM	10	94	5	0	0	95	40	0	107	0	131	0	72	94	0	0	648
05:45 PM	11	81	2	0	0	95	35	0	101	0	89	0	87	99	0	0	600
Total	57	376	10	0	0	414	169	0	394	0	438	0	328	377	0	0	2563
06:00 PM	11	82	3	0	0	92	35	0	110	0	124	0	84	88	0	0	629
06:15 PM	16	90	3	0	0	109	34	0	78	0	111	0	71	97	0	0	609
06:30 PM	10	64	3	0	0	89	34	0	95	0	101	0	81	103	0	0	580
06:45 PM	6	67	2	0	0	89	30	0	82	0	92	0	60	78	0	0	506
Total	43	303	11	0	0	379	133	0	365	0	428	0	296	366	0	0	2324
Grand Total	368	2744	131	0	0	3914	1486	0	4259	1	5041	0	2857	3979	0	0	24780
Apprch %	11.3	84.6	4	0	0	72.5	27.5	0	45.8	0	54.2	0	41.8	58.2	0	0	
Total %	1.5	11.1	0.5	0	0	15.8	6	0	17.2	0	20.3	0	11.5	16.1	0	0	
Cars	353	2719	130	0	0	3765	1471	0	4225	1	4981	0	2830	3875	0	0	24350
% Cars	95.9	99.1	99.2	0	0	96.2	99	0	99.2	100	98.8	0	99.1	97.4	0	0	98.3
Heavy Vehicles	15	25	1	0	0	149	15	0	34	0	60	0	27	104	0	0	430
% Heavy Vehicles	4.1	0.9	0.8	0	0	3.8	1	0	0.8	0	1.2	0	0.9	2.6	0	0	1.7

	Hobart Road From North					Beacon Street From East					Hammond Pond Parkway From South					Beacon Street From West					Int. Total
Start Time	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:30 AM																					
07:30 AM	7	68	1	0	76	0	88	26	0	114	170	0	133	0	303	40	111	0	0	151	644
07:45 AM	9	79	6	0	94	0	111	35	0	146	183	0	127	0	310	50	118	0	0	168	718
08:00 AM	7	56	2	0	65	0	98	34	0	132	181	0	143	0	324	44	100	0	0	144	665
08:15 AM	9	54	5	0	68	0	123	33	0	156	171	0	125	0	296	42	106	0	0	148	668
Total Volume	32	257	14	0	303	0	420	128	0	548	705	0	528	0	1233	176	435	0	0	611	2695
% App. Total	10.6	84.8	4.6	0		0	76.6	23.4	0		57.2	0	42.8	0		28.8	71.2	0	0		
PHF	.889	.813	.583	.000	.806	.000	.854	.914	.000	.878	.963	.000	.923	.000	.951	.880	.922	.000	.000	.909	.938
Cars	29	255	14	0	298	0	412	123	0	535	701	0	525	0	1226	173	421	0	0	594	2653
% Cars	90.6	99.2	100	0	98.3	0	98.1	96.1	0	97.6	99.4	0	99.4	0	99.4	98.3	96.8	0	0	97.2	98.4
Heavy Vehicles	3	2	0	0	5	0	8	5	0	13	4	0	3	0	7	3	14	0	0	17	42
% Heavy Vehicles	9.4	0.8	0	0	1.7	0	1.9	3.9	0	2.4	0.6	0	0.6	0	0.6	1.7	3.2	0	0	2.8	1.6

Peak Hour Analysis From 10:00 AM to 01:45 PM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 01:00 PM

01:00 PM	3	43	0	0	46	0	80	25	0	105	59	0	79	0	138	75	75	0	0	150	439
01:15 PM	2	38	3	0	43	0	64	56	0	120	56	0	73	0	129	45	59	0	0	104	396
01:30 PM	3	32	2	0	37	0	71	37	0	108	66	0	105	0	171	69	64	0	0	133	449
01:45 PM	3	42	0	0	45	0	84	41	0	125	61	0	88	0	149	51	71	0	0	122	441
Total Volume	11	155	5	0	171	0	299	159	0	458	242	0	345	0	587	240	269	0	0	509	1725
% App. Total	6.4	90.6	2.9	0		0	65.3	34.7	0		41.2	0	58.8	0		47.2	52.8	0	0		
PHF	.917	.901	.417	.000	.929	.000	.890	.710	.000	.916	.917	.000	.821	.000	.858	.800	.897	.000	.000	.848	.960
Cars	11	154	5	0	170	0	288	158	0	446	240	0	337	0	577	236	257	0	0	493	1686
% Cars	100	99.4	100	0	99.4	0	96.3	99.4	0	97.4	99.2	0	97.7	0	98.3	98.3	95.5	0	0	96.9	97.7
Heavy Vehicles	0	1	0	0	1	0	11	1	0	12	2	0	8	0	10	4	12	0	0	16	39
% Heavy Vehicles	0	0.6	0	0	0.6	0	3.7	0.6	0	2.6	0.8	0	2.3	0	1.7	1.7	4.5	0	0	3.1	2.3



PRECISION
D A T A
INDUSTRIES, LLC

46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

N/S: Hobart Road/ Hammond Pond Parkway
E/W: Beacon Street
City, State: Chestnut Hill, MA
Client: Toole Design/ J. Dempsey

File Name : 165337 A
Site Code : TBA
Start Date : 11/3/2016
Page No : 3

	Hobart Road From North					Beacon Street From East					Hammond Pond Parkway From South					Beacon Street From West					
Start Time	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 02:00 PM to 06:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 05:00 PM																					
05:00 PM	16	111	1	0	128	0	102	43	0	145	87	0	110	0	197	72	90	0	0	162	632
05:15 PM	20	90	2	0	112	0	122	51	0	173	99	0	108	0	207	97	94	0	0	191	683
05:30 PM	10	94	5	0	109	0	95	40	0	135	107	0	131	0	238	72	94	0	0	166	648
05:45 PM	11	81	2	0	94	0	95	35	0	130	101	0	89	0	190	87	99	0	0	186	600
Total Volume	57	376	10	0	443	0	414	169	0	583	394	0	438	0	832	328	377	0	0	705	2563
% App. Total	12.9	84.9	2.3	0		0	71	29	0		47.4	0	52.6	0		46.5	53.5	0	0		
PHF	.713	.847	.500	.000	.865	.000	.848	.828	.000	.842	.921	.000	.836	.000	.874	.845	.952	.000	.000	.923	.938
Cars	55	375	10	0	440	0	413	168	0	581	393	0	434	0	827	326	375	0	0	701	2549
% Cars	96.5	99.7	100	0	99.3	0	99.8	99.4	0	99.7	99.7	0	99.1	0	99.4	99.4	99.5	0	0	99.4	99.5
Heavy Vehicles	2	1	0	0	3	0	1	1	0	2	1	0	4	0	5	2	2	0	0	4	14
% Heavy Vehicles	3.5	0.3	0	0	0.7	0	0.2	0.6	0	0.3	0.3	0	0.9	0	0.6	0.6	0.5	0	0	0.6	0.5



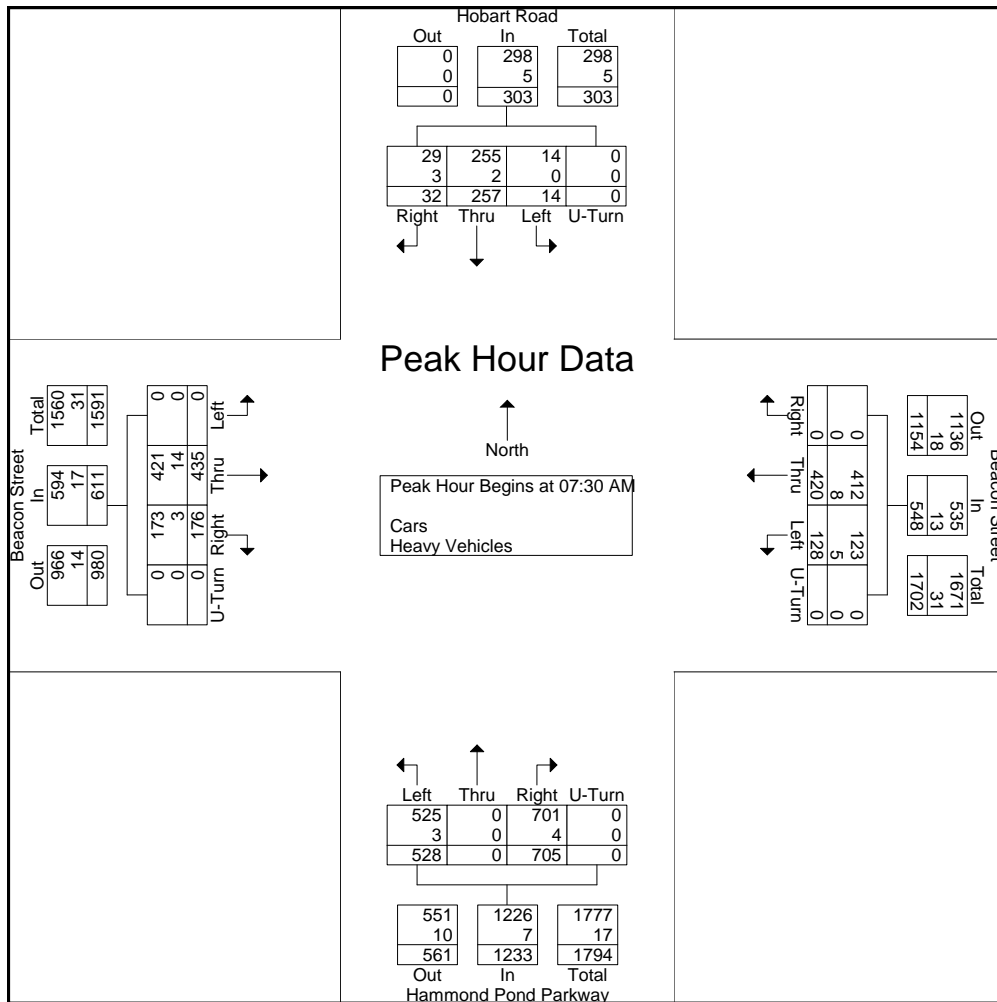
PRECISION
D A T A
INDUSTRIES, LLC

46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

N/S: Hobart Road/ Hammond Pond Parkway
E/W: Beacon Street
City, State: Chestnut Hill, MA
Client: Toole Design/ J. Dempsey

File Name : 165337 A
Site Code : TBA
Start Date : 11/3/2016
Page No : 1

	Hobart Road From North					Beacon Street From East					Hammond Pond Parkway From South					Beacon Street From West					
Start Time	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:30 AM																					
07:30 AM	7	68	1	0	76	0	88	26	0	114	170	0	133	0	303	40	111	0	0	151	644
07:45 AM	9	79	6	0	94	0	111	35	0	146	183	0	127	0	310	50	118	0	0	168	718
08:00 AM	7	56	2	0	65	0	98	34	0	132	181	0	143	0	324	44	100	0	0	144	665
08:15 AM	9	54	5	0	68	0	123	33	0	156	171	0	125	0	296	42	106	0	0	148	668
Total Volume	32	257	14	0	303	0	420	128	0	548	705	0	528	0	1233	176	435	0	0	611	2695
% App. Total	10.6	84.8	4.6	0		0	76.6	23.4	0		57.2	0	42.8	0		28.8	71.2	0	0		
PHF	.889	.813	.583	.000	.806	.000	.854	.914	.000	.878	.963	.000	.923	.000	.951	.880	.922	.000	.000	.909	.938
Cars	29	255	14	0	298	0	412	123	0	535	701	0	525	0	1226	173	421	0	0	594	2653
% Cars	90.6	99.2	100	0	98.3	0	98.1	96.1	0	97.6	99.4	0	99.4	0	99.4	98.3	96.8	0	0	97.2	98.4
Heavy Vehicles	3	2	0	0	5	0	8	5	0	13	4	0	3	0	7	3	14	0	0	17	42
% Heavy Vehicles	9.4	0.8	0	0	1.7	0	1.9	3.9	0	2.4	0.6	0	0.6	0	0.6	1.7	3.2	0	0	2.8	1.6





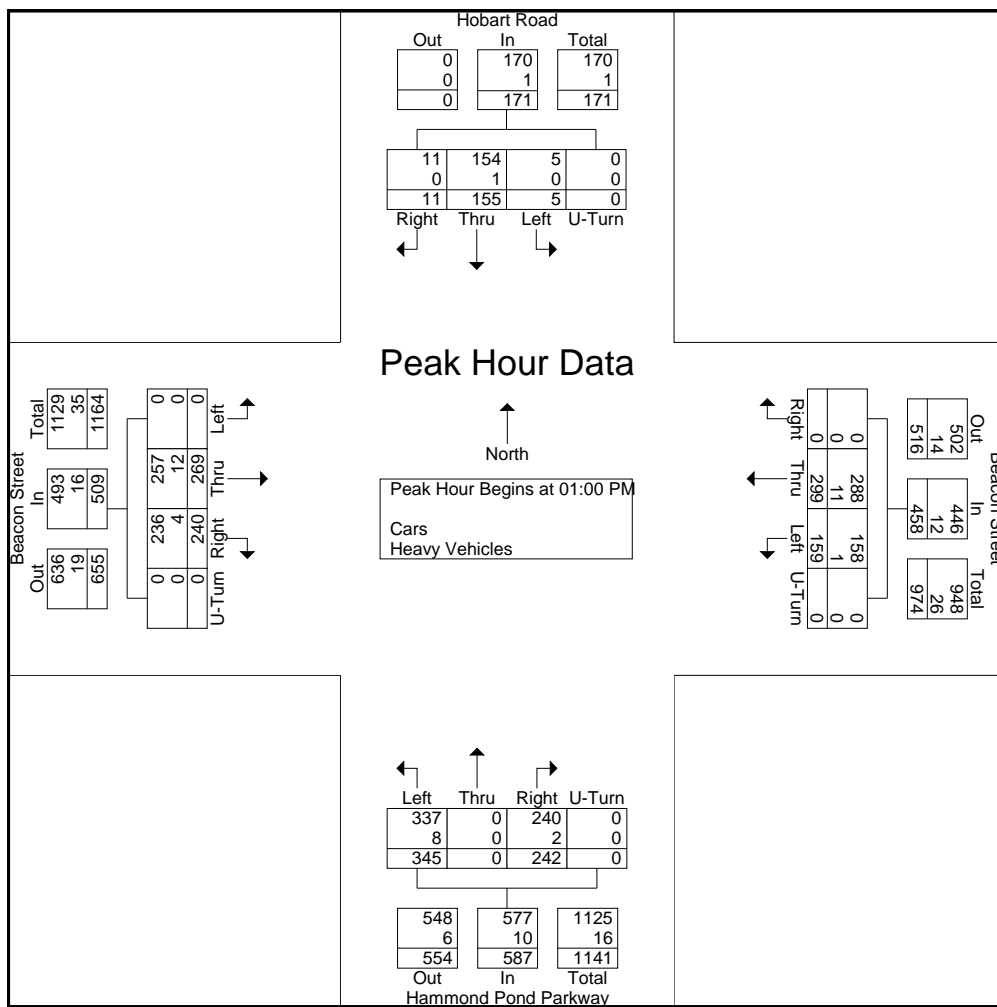
PRECISION
D A T A
INDUSTRIES, LLC

46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

N/S: Hobart Road/ Hammond Pond Parkway
E/W: Beacon Street
City, State: Chestnut Hill, MA
Client: Toole Design/ J. Dempsey

File Name : 165337 A
Site Code : TBA
Start Date : 11/3/2016
Page No : 2

	Hobart Road From North					Beacon Street From East					Hammond Pond Parkway From South					Beacon Street From West					
Start Time	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 10:00 AM to 01:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 01:00 PM																					
01:00 PM	3	43	0	0	46	0	80	25	0	105	59	0	79	0	138	75	75	0	0	150	439
01:15 PM	2	38	3	0	43	0	64	56	0	120	56	0	73	0	129	45	59	0	0	104	396
01:30 PM	3	32	2	0	37	0	71	37	0	108	66	0	105	0	171	69	64	0	0	133	449
01:45 PM	3	42	0	0	45	0	84	41	0	125	61	0	88	0	149	51	71	0	0	122	441
Total Volume	11	155	5	0	171	0	299	159	0	458	242	0	345	0	587	240	269	0	0	509	1725
% App. Total	6.4	90.6	2.9	0		0	65.3	34.7	0		41.2	0	58.8	0		47.2	52.8	0	0		
PHF	.917	.901	.417	.000	.929	.000	.890	.710	.000	.916	.917	.000	.821	.000	.858	.800	.897	.000	.000	.848	.960
Cars	11	154	5	0	170	0	288	158	0	446	240	0	337	0	577	236	257	0	0	493	1686
% Cars	100	99.4	100	0	99.4	0	96.3	99.4	0	97.4	99.2	0	97.7	0	98.3	98.3	95.5	0	0	96.9	97.7
Heavy Vehicles	0	1	0	0	1	0	11	1	0	12	2	0	8	0	10	4	12	0	0	16	39
% Heavy Vehicles	0	0.6	0	0	0.6	0	3.7	0.6	0	2.6	0.8	0	2.3	0	1.7	1.7	4.5	0	0	3.1	2.3





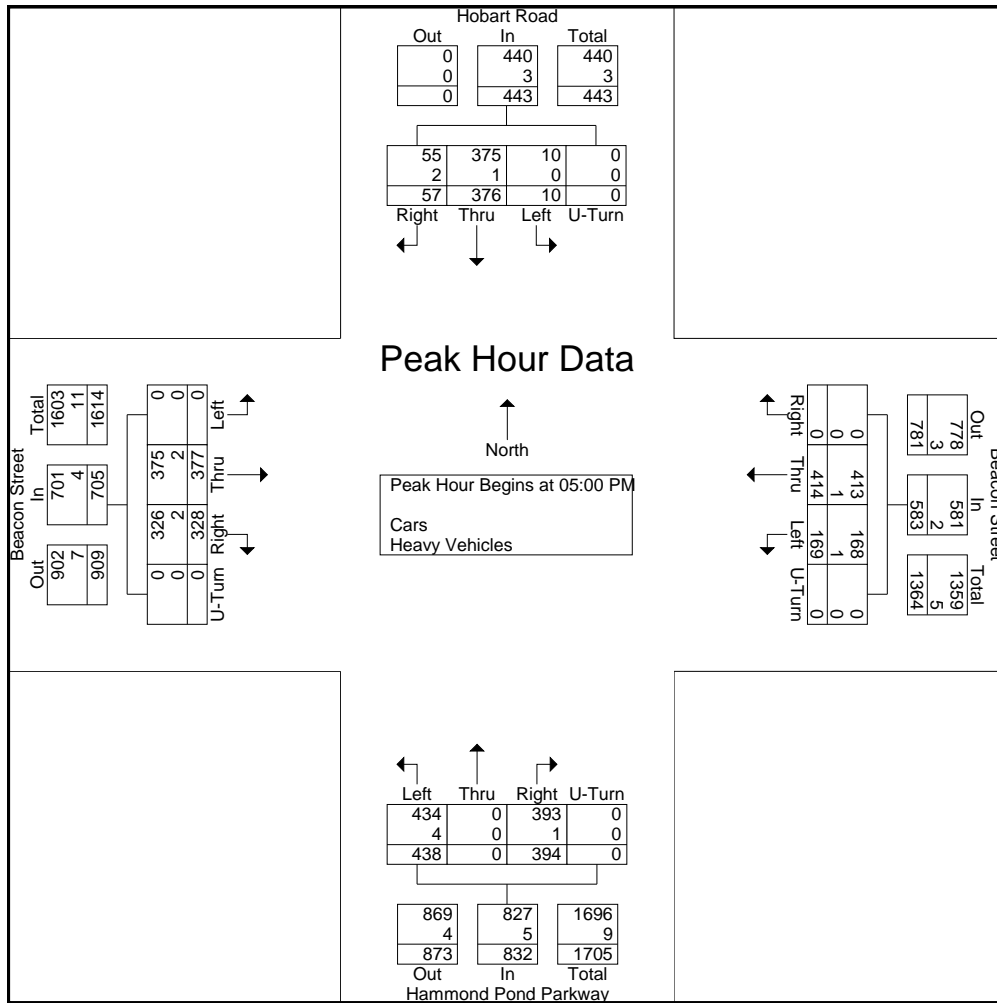
PRECISION
D A T A
INDUSTRIES, LLC

46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

N/S: Hobart Road/ Hammond Pond Parkway
E/W: Beacon Street
City, State: Chestnut Hill, MA
Client: Toole Design/ J. Dempsey

File Name : 165337 A
Site Code : TBA
Start Date : 11/3/2016
Page No : 3

	Hobart Road From North					Beacon Street From East					Hammond Pond Parkway From South					Beacon Street From West					
Start Time	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 02:00 PM to 06:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 05:00 PM																					
05:00 PM	16	111	1	0	128	0	102	43	0	145	87	0	110	0	197	72	90	0	0	162	632
05:15 PM	20	90	2	0	112	0	122	51	0	173	99	0	108	0	207	97	94	0	0	191	683
05:30 PM	10	94	5	0	109	0	95	40	0	135	107	0	131	0	238	72	94	0	0	166	648
05:45 PM	11	81	2	0	94	0	95	35	0	130	101	0	89	0	190	87	99	0	0	186	600
Total Volume	57	376	10	0	443	0	414	169	0	583	394	0	438	0	832	328	377	0	0	705	2563
% App. Total	12.9	84.9	2.3	0		0	71	29	0		47.4	0	52.6	0		46.5	53.5	0	0		
PHF	.713	.847	.500	.000	.865	.000	.848	.828	.000	.842	.921	.000	.836	.000	.874	.845	.952	.000	.000	.923	.938
Cars	55	375	10	0	440	0	413	168	0	581	393	0	434	0	827	326	375	0	0	701	2549
% Cars	96.5	99.7	100	0	99.3	0	99.8	99.4	0	99.7	99.7	0	99.1	0	99.4	99.4	99.5	0	0	99.4	99.5
Heavy Vehicles	2	1	0	0	3	0	1	1	0	2	1	0	4	0	5	2	2	0	0	4	14
% Heavy Vehicles	3.5	0.3	0	0	0.7	0	0.2	0.6	0	0.3	0.3	0	0.9	0	0.6	0.6	0.5	0	0	0.6	0.5





PRECISION
D A T A
INDUSTRIES, LLC

46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

N/S: Hobart Road/ Hammond Pond Parkway
E/W: Beacon Street
City, State: Chestnut Hill, MA
Client: Toole Design/ J. Dempsey

File Name : 165337 AA
Site Code : TBA
Start Date : 11/5/2016
Page No : 1

Groups Printed- Cars - Heavy Vehicles

	Hobart Road From North				Beacon Street From East				Hammond Pond Parkway From South				Beacon Street From West				Int. Total
Start Time	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	
11:00 AM	2	30	2	0	0	60	43	0	76	0	61	0	77	75	0	0	426
11:15 AM	7	42	4	0	0	50	35	0	76	0	81	0	68	82	0	0	445
11:30 AM	2	48	4	0	0	59	46	0	72	0	90	0	82	61	0	0	464
11:45 AM	0	49	5	0	0	58	40	0	75	0	97	0	78	63	0	0	465
Total	11	169	15	0	0	227	164	0	299	0	329	0	305	281	0	0	1800
12:00 PM	5	38	4	0	0	75	39	0	56	0	102	0	69	66	0	0	454
12:15 PM	7	57	2	0	0	66	32	0	56	0	108	1	79	67	0	0	475
12:30 PM	6	61	1	0	0	74	29	0	47	0	88	1	65	64	0	0	436
12:45 PM	8	68	2	0	0	45	33	0	58	0	104	0	90	66	0	0	474
Total	26	224	9	0	0	260	133	0	217	0	402	2	303	263	0	0	1839
01:00 PM	5	53	4	0	0	66	28	1	62	0	111	0	84	62	0	0	476
01:15 PM	5	68	3	0	0	78	25	0	46	0	106	1	87	55	0	0	474
01:30 PM	7	54	5	0	0	68	22	0	57	0	108	0	94	43	0	0	458
01:45 PM	8	61	1	0	0	70	47	0	53	0	106	0	72	54	0	0	472
Total	25	236	13	0	0	282	122	1	218	0	431	1	337	214	0	0	1880
Grand Total	62	629	37	0	0	769	419	1	734	0	1162	3	945	758	0	0	5519
Apprch %	8.5	86.4	5.1	0	0	64.7	35.2	0.1	38.7	0	61.2	0.2	55.5	44.5	0	0	
Total %	1.1	11.4	0.7	0	0	13.9	7.6	0	13.3	0	21.1	0.1	17.1	13.7	0	0	
Cars	60	627	23	0	0	764	397	1	716	0	1157	3	940	749	0	0	5437
% Cars	96.8	99.7	62.2	0	0	99.3	94.7	100	97.5	0	99.6	100	99.5	98.8	0	0	98.5
Heavy Vehicles	2	2	14	0	0	5	22	0	18	0	5	0	5	9	0	0	82
% Heavy Vehicles	3.2	0.3	37.8	0	0	0.7	5.3	0	2.5	0	0.4	0	0.5	1.2	0	0	1.5

	Hobart Road From North					Beacon Street From East					Hammond Pond Parkway From South					Beacon Street From West					Int. Total
Start Time	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	
Peak Hour Analysis From 11:00 AM to 01:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 12:45 PM																					
12:45 PM	8	68	2	0	78	0	45	33	0	78	58	0	104	0	162	90	66	0	0	156	474
01:00 PM	5	53	4	0	62	0	66	28	1	95	62	0	111	0	173	84	62	0	0	146	476
01:15 PM	5	68	3	0	76	0	78	25	0	103	46	0	106	1	153	87	55	0	0	142	474
01:30 PM	7	54	5	0	66	0	68	22	0	90	57	0	108	0	165	94	43	0	0	137	458
Total Volume	25	243	14	0	282	0	257	108	1	366	223	0	429	1	653	355	226	0	0	581	1882
% App. Total	8.9	86.2	5	0		0	70.2	29.5	0.3		34.2	0	65.7	0.2		61.1	38.9	0	0		
PHF	.781	.893	.700	.000	.904	.000	.824	.818	.250	.888	.899	.000	.966	.250	.944	.944	.856	.000	.000	.931	.988
Cars	25	243	9	0	277	0	256	103	1	360	216	0	427	1	644	355	224	0	0	579	1860
% Cars	100	100	64.3	0	98.2	0	99.6	95.4	100	98.4	96.9	0	99.5	100	98.6	100	99.1	0	0	99.7	98.8
Heavy Vehicles	0	0	5	0	5	0	1	5	0	6	7	0	2	0	9	0	2	0	0	2	22
% Heavy Vehicles	0	0	35.7	0	1.8	0	0.4	4.6	0	1.6	3.1	0	0.5	0	1.4	0	0.9	0	0	0.3	1.2



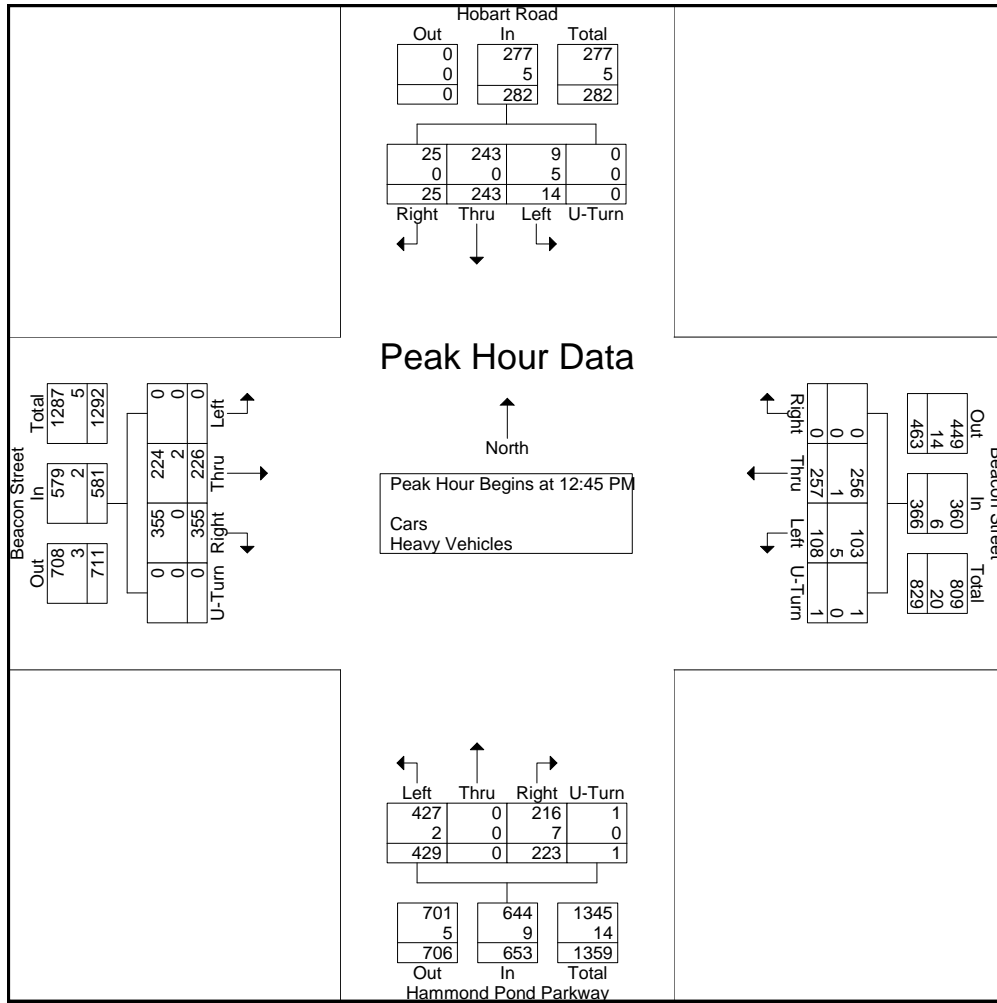
PRECISION
D A T A
INDUSTRIES, LLC

46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

N/S: Hobart Road/ Hammond Pond Parkway
E/W: Beacon Street
City, State: Chestnut Hill, MA
Client: Toole Design/ J. Dempsey

File Name : 165337 AA
Site Code : TBA
Start Date : 11/5/2016
Page No : 1

	Hobart Road From North					Beacon Street From East					Hammond Pond Parkway From South					Beacon Street From West					
Start Time	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 11:00 AM to 01:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 12:45 PM																					
12:45 PM	8	68	2	0	78	0	45	33	0	78	58	0	104	0	162	90	66	0	0	156	474
01:00 PM	5	53	4	0	62	0	66	28	1	95	62	0	111	0	173	84	62	0	0	146	476
01:15 PM	5	68	3	0	76	0	78	25	0	103	46	0	106	1	153	87	55	0	0	142	474
01:30 PM	7	54	5	0	66	0	68	22	0	90	57	0	108	0	165	94	43	0	0	137	458
Total Volume	25	243	14	0	282	0	257	108	1	366	223	0	429	1	653	355	226	0	0	581	1882
% App. Total	8.9	86.2	5	0		0	70.2	29.5	0.3		34.2	0	65.7	0.2		61.1	38.9	0	0		
PHF	.781	.893	.700	.000	.904	.000	.824	.818	.250	.888	.899	.000	.966	.250	.944	.944	.856	.000	.000	.931	.988
Cars	25	243	9	0	277	0	256	103	1	360	216	0	427	1	644	355	224	0	0	579	1860
% Cars	100	100	64.3	0	98.2	0	99.6	95.4	100	98.4	96.9	0	99.5	100	98.6	100	99.1	0	0	99.7	98.8
Heavy Vehicles	0	0	5	0	5	0	1	5	0	6	7	0	2	0	9	0	2	0	0	2	22
% Heavy Vehicles	0	0	35.7	0	1.8	0	0.4	4.6	0	1.6	3.1	0	0.5	0	1.4	0	0.9	0	0	0.3	1.2





PRECISION
D A T A
INDUSTRIES, LLC

46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

N/S Hammond Pond Parkway
W: Mall Driveway
City, State: Chestnut Hill, MA
Client: Toole Design/ J. Dempsey

File Name : 165337 B
Site Code : TBA
Start Date : 11/3/2016
Page No : 1

Groups Printed- Cars - Heavy Vehicles

Start Time	Hammond Pond Parkway From North			Hammond Pond Parkway From South			Mall Driveway From West			Int. Total
	Right	Thru	U-Turn	Thru	Left	U-Turn	Right	Left	U-Turn	
07:00 AM	2	67	0	192	5	0	5	7	0	278
07:15 AM	3	92	0	296	1	0	4	3	0	399
07:30 AM	6	120	0	308	2	0	5	5	0	446
07:45 AM	9	154	0	326	4	0	2	5	1	501
Total	20	433	0	1122	12	0	16	20	1	1624
08:00 AM	14	137	0	318	4	0	0	8	0	481
08:15 AM	13	115	0	298	4	0	2	4	0	436
08:30 AM	16	98	0	285	3	0	4	12	0	418
08:45 AM	20	118	0	281	9	0	3	12	0	443
Total	63	468	0	1182	20	0	9	36	0	1778
09:00 AM	16	87	0	231	8	0	5	5	0	352
09:15 AM	26	103	0	189	16	0	0	5	0	339
09:30 AM	18	87	0	173	18	0	8	9	0	313
09:45 AM	22	102	0	174	22	0	7	8	0	335
Total	82	379	0	767	64	0	20	27	0	1339
10:00 AM	37	76	0	124	17	0	17	9	0	280
10:15 AM	25	72	0	136	13	0	8	11	0	265
10:30 AM	23	71	0	120	9	0	14	21	0	258
10:45 AM	34	86	0	101	14	0	15	19	0	269
Total	119	305	0	481	53	0	54	60	0	1072
11:00 AM	26	69	0	87	20	0	21	16	0	239
11:15 AM	40	71	0	114	20	0	20	19	0	284
11:30 AM	25	88	0	128	18	0	15	17	0	291
11:45 AM	38	77	0	147	23	1	17	15	0	318
Total	129	305	0	476	81	1	73	67	0	1132
12:00 PM	36	87	0	123	24	0	26	17	0	313
12:15 PM	30	80	0	115	20	0	14	24	0	283
12:30 PM	40	105	0	108	24	0	21	21	1	320
12:45 PM	45	98	0	104	20	0	23	25	0	315
Total	151	370	0	450	88	0	84	87	1	1231
01:00 PM	42	95	0	121	21	0	20	23	0	322
01:15 PM	26	86	0	109	18	0	16	24	0	279
01:30 PM	44	123	0	139	27	0	19	26	0	378
01:45 PM	33	104	0	135	13	0	29	24	0	338
Total	145	408	0	504	79	0	84	97	0	1317
02:00 PM	25	107	0	126	23	0	15	26	0	322
02:15 PM	29	96	0	153	22	0	24	30	0	354
02:30 PM	33	99	0	169	17	0	32	45	0	395
02:45 PM	36	159	0	144	18	0	27	24	0	408
Total	123	461	0	592	80	0	98	125	0	1479
03:00 PM	29	145	0	165	16	0	25	35	0	415
03:15 PM	32	177	0	182	20	0	15	31	0	457
03:30 PM	34	149	0	173	19	0	23	37	0	435
03:45 PM	38	152	0	192	10	0	19	29	0	440
Total	133	623	0	712	65	0	82	132	0	1747
04:00 PM	44	173	0	179	15	0	15	37	0	463
04:15 PM	46	184	0	167	21	0	23	35	0	476
04:30 PM	40	140	0	159	16	0	23	27	0	405
04:45 PM	53	175	0	185	12	0	17	20	1	463
Total	183	672	0	690	64	0	78	119	1	1807



PRECISION
D A T A
INDUSTRIES, LLC

46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

N/S Hammond Pond Parkway
W: Mall Driveway
City, State: Chestnut Hill, MA
Client: Toole Design/ J. Dempsey

File Name : 165337 B
Site Code : TBA
Start Date : 11/3/2016
Page No : 2

Groups Printed- Cars - Heavy Vehicles

	Hammond Pond Parkway From North			Hammond Pond Parkway From South			Mall Driveway From West			
Start Time	Right	Thru	U-Turn	Thru	Left	U-Turn	Right	Left	U-Turn	Int. Total
05:00 PM	38	186	0	187	17	0	29	30	0	487
05:15 PM	51	199	0	176	19	0	19	29	0	493
05:30 PM	36	174	0	199	21	0	17	37	0	484
05:45 PM	52	159	0	196	25	0	23	24	0	479
Total	177	718	0	758	82	0	88	120	0	1943
06:00 PM	39	177	0	186	25	0	30	40	0	497
06:15 PM	36	167	0	160	26	1	30	26	0	446
06:30 PM	32	164	0	179	14	0	26	35	0	450
06:45 PM	30	129	0	141	13	0	17	27	0	357
Total	137	637	0	666	78	1	103	128	0	1750
Grand Total	1462	5779	0	8400	766	2	789	1018	3	18219
Apprch %	20.2	79.8	0	91.6	8.4	0	43.6	56.2	0.2	
Total %	8	31.7	0	46.1	4.2	0	4.3	5.6	0	
Cars	1451	5661	0	8261	727	2	780	1015	3	17900
% Cars	99.2	98	0	98.3	94.9	100	98.9	99.7	100	98.2
Heavy Vehicles	11	118	0	139	39	0	9	3	0	319
% Heavy Vehicles	0.8	2	0	1.7	5.1	0	1.1	0.3	0	1.8

	Hammond Pond Parkway From North				Hammond Pond Parkway From South				Mall Driveway From West				
Start Time	Right	Thru	U-Turn	App. Total	Thru	Left	U-Turn	App. Total	Right	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 07:30 AM													
07:30 AM	6	120	0	126	308	2	0	310	5	5	0	10	446
07:45 AM	9	154	0	163	326	4	0	330	2	5	1	8	501
08:00 AM	14	137	0	151	318	4	0	322	0	8	0	8	481
08:15 AM	13	115	0	128	298	4	0	302	2	4	0	6	436
Total Volume	42	526	0	568	1250	14	0	1264	9	22	1	32	1864
% App. Total	7.4	92.6	0		98.9	1.1	0		28.1	68.8	3.1		
PHF	.750	.854	.000	.871	.959	.875	.000	.958	.450	.688	.250	.800	.930
Cars	42	509	0	551	1239	13	0	1252	9	22	1	32	1835
% Cars	100	96.8	0	97.0	99.1	92.9	0	99.1	100	100	100	100	98.4
Heavy Vehicles	0	17	0	17	11	1	0	12	0	0	0	0	29
% Heavy Vehicles	0	3.2	0	3.0	0.9	7.1	0	0.9	0	0	0	0	1.6

Peak Hour Analysis From 10:00 AM to 01:45 PM - Peak 1 of 1
Peak Hour for Entire Intersection Begins at 01:00 PM

01:00 PM	42	95	0	137	121	21	0	142	20	23	0	43	322
01:15 PM	26	86	0	112	109	18	0	127	16	24	0	40	279
01:30 PM	44	123	0	167	139	27	0	166	19	26	0	45	378
01:45 PM	33	104	0	137	135	13	0	148	29	24	0	53	338
Total Volume	145	408	0	553	504	79	0	583	84	97	0	181	1317
% App. Total	26.2	73.8	0		86.4	13.6	0		46.4	53.6	0		
PHF	.824	.829	.000	.828	.906	.731	.000	.878	.724	.933	.000	.854	.871
Cars	143	402	0	545	494	77	0	571	83	96	0	179	1295
% Cars	98.6	98.5	0	98.6	98.0	97.5	0	97.9	98.8	99.0	0	98.9	98.3
Heavy Vehicles	2	6	0	8	10	2	0	12	1	1	0	2	22
% Heavy Vehicles	1.4	1.5	0	1.4	2.0	2.5	0	2.1	1.2	1.0	0	1.1	1.7



PRECISION
D A T A
INDUSTRIES, LLC

46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

N/S Hammond Pond Parkway
W: Mall Driveway
City, State: Chestnut Hill, MA
Client: Toole Design/ J. Dempsey

File Name : 165337 B
Site Code : TBA
Start Date : 11/3/2016
Page No : 3

	Hammond Pond Parkway From North				Hammond Pond Parkway From South				Mall Driveway From West				
Start Time	Right	Thru	U-Turn	App. Total	Thru	Left	U-Turn	App. Total	Right	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 02:00 PM to 06:45 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 05:15 PM													
05:15 PM	51	199	0	250	176	19	0	195	19	29	0	48	493
05:30 PM	36	174	0	210	199	21	0	220	17	37	0	54	484
05:45 PM	52	159	0	211	196	25	0	221	23	24	0	47	479
06:00 PM	39	177	0	216	186	25	0	211	30	40	0	70	497
Total Volume	178	709	0	887	757	90	0	847	89	130	0	219	1953
% App. Total	20.1	79.9	0		89.4	10.6	0		40.6	59.4	0		
PHF	.856	.891	.000	.887	.951	.900	.000	.958	.742	.813	.000	.782	.982
Cars	177	698	0	875	743	88	0	831	89	130	0	219	1925
% Cars	99.4	98.4	0	98.6	98.2	97.8	0	98.1	100	100	0	100	98.6
Heavy Vehicles	1	11	0	12	14	2	0	16	0	0	0	0	28
% Heavy Vehicles	0.6	1.6	0	1.4	1.8	2.2	0	1.9	0	0	0	0	1.4



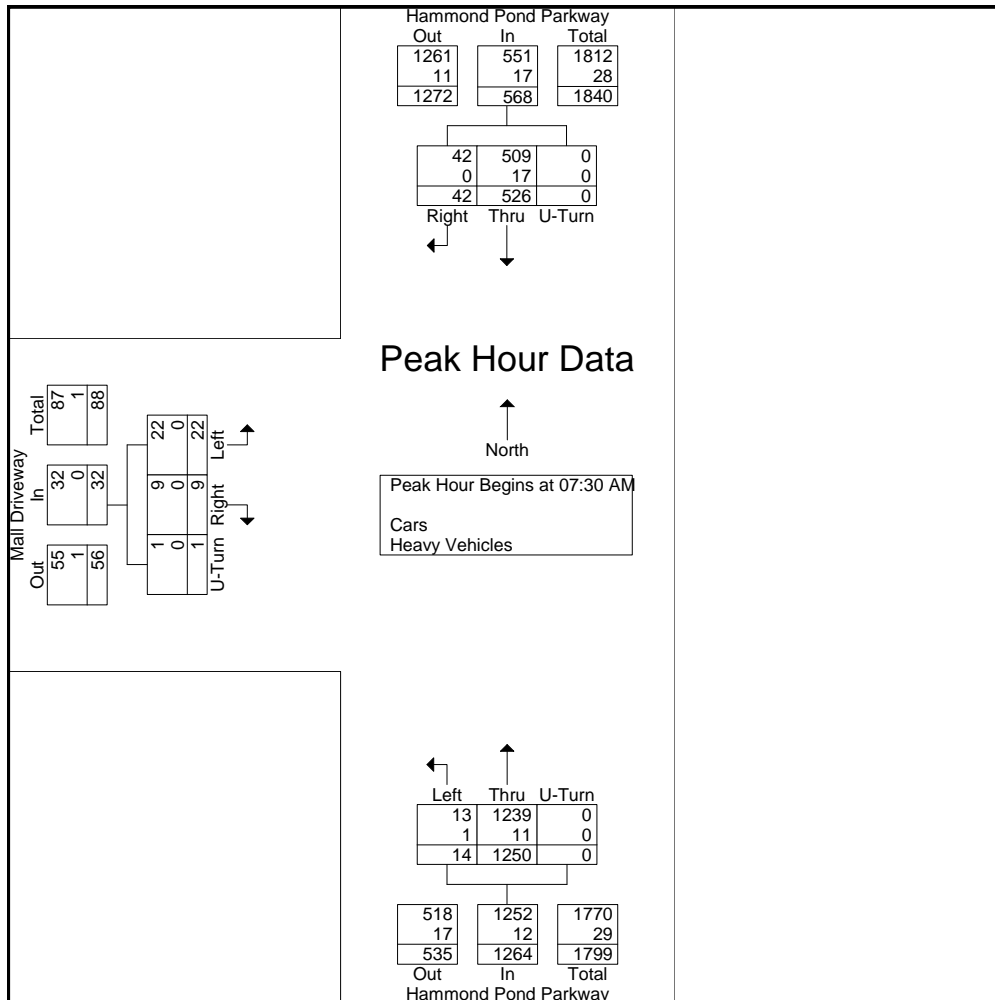
PRECISION
D A T A
INDUSTRIES, LLC

46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

N/S Hammond Pond Parkway
W: Mall Driveway
City, State: Chestnut Hill, MA
Client: Toole Design/ J. Dempsey

File Name : 165337 B
Site Code : TBA
Start Date : 11/3/2016
Page No : 1

	Hammond Pond Parkway From North				Hammond Pond Parkway From South				Mall Driveway From West				
Start Time	Right	Thru	U-Turn	App. Total	Thru	Left	U-Turn	App. Total	Right	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 07:30 AM													
07:30 AM	6	120	0	126	308	2	0	310	5	5	0	10	446
07:45 AM	9	154	0	163	326	4	0	330	2	5	1	8	501
08:00 AM	14	137	0	151	318	4	0	322	0	8	0	8	481
08:15 AM	13	115	0	128	298	4	0	302	2	4	0	6	436
Total Volume	42	526	0	568	1250	14	0	1264	9	22	1	32	1864
% App. Total	7.4	92.6	0		98.9	1.1	0		28.1	68.8	3.1		
PHF	.750	.854	.000	.871	.959	.875	.000	.958	.450	.688	.250	.800	.930
Cars	42	509	0	551	1239	13	0	1252	9	22	1	32	1835
% Cars	100	96.8	0	97.0	99.1	92.9	0	99.1	100	100	100	100	98.4
Heavy Vehicles	0	17	0	17	11	1	0	12	0	0	0	0	29
% Heavy Vehicles	0	3.2	0	3.0	0.9	7.1	0	0.9	0	0	0	0	1.6





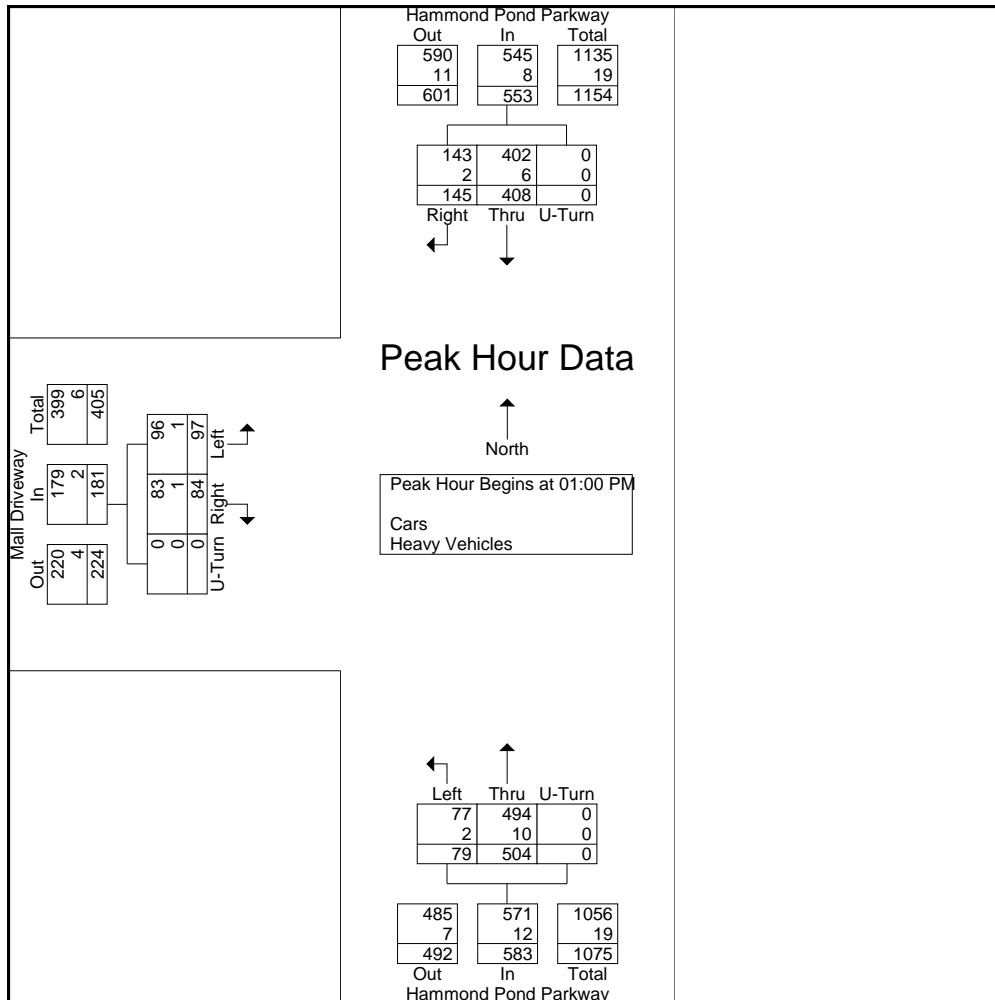
PRECISION
D A T A
INDUSTRIES, LLC

46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

N/S Hammond Pond Parkway
W: Mall Driveway
City, State: Chestnut Hill, MA
Client: Toole Design/ J. Dempsey

File Name : 165337 B
Site Code : TBA
Start Date : 11/3/2016
Page No : 2

	Hammond Pond Parkway From North				Hammond Pond Parkway From South				Mall Driveway From West				
Start Time	Right	Thru	U-Turn	App. Total	Thru	Left	U-Turn	App. Total	Right	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 10:00 AM to 01:45 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 01:00 PM													
01:00 PM	42	95	0	137	121	21	0	142	20	23	0	43	322
01:15 PM	26	86	0	112	109	18	0	127	16	24	0	40	279
01:30 PM	44	123	0	167	139	27	0	166	19	26	0	45	378
01:45 PM	33	104	0	137	135	13	0	148	29	24	0	53	338
Total Volume	145	408	0	553	504	79	0	583	84	97	0	181	1317
% App. Total	26.2	73.8	0		86.4	13.6	0		46.4	53.6	0		
PHF	.824	.829	.000	.828	.906	.731	.000	.878	.724	.933	.000	.854	.871
Cars	143	402	0	545	494	77	0	571	83	96	0	179	1295
% Cars	98.6	98.5	0	98.6	98.0	97.5	0	97.9	98.8	99.0	0	98.9	98.3
Heavy Vehicles	2	6	0	8	10	2	0	12	1	1	0	2	22
% Heavy Vehicles	1.4	1.5	0	1.4	2.0	2.5	0	2.1	1.2	1.0	0	1.1	1.7





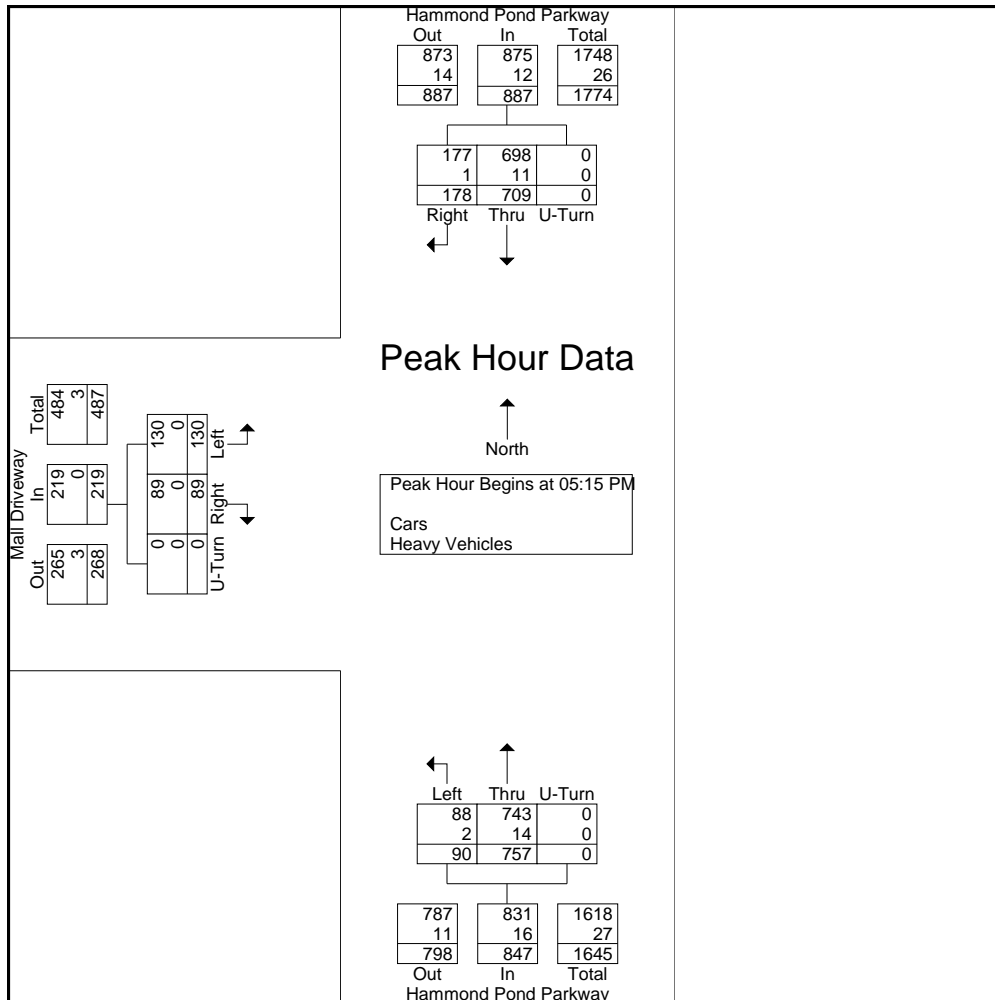
PRECISION
D A T A
INDUSTRIES, LLC

46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

N/S Hammond Pond Parkway
W: Mall Driveway
City, State: Chestnut Hill, MA
Client: Toole Design/ J. Dempsey

File Name : 165337 B
Site Code : TBA
Start Date : 11/3/2016
Page No : 3

	Hammond Pond Parkway From North				Hammond Pond Parkway From South				Mall Driveway From West				
Start Time	Right	Thru	U-Turn	App. Total	Thru	Left	U-Turn	App. Total	Right	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 02:00 PM to 06:45 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 05:15 PM													
05:15 PM	51	199	0	250	176	19	0	195	19	29	0	48	493
05:30 PM	36	174	0	210	199	21	0	220	17	37	0	54	484
05:45 PM	52	159	0	211	196	25	0	221	23	24	0	47	479
06:00 PM	39	177	0	216	186	25	0	211	30	40	0	70	497
Total Volume	178	709	0	887	757	90	0	847	89	130	0	219	1953
% App. Total	20.1	79.9	0		89.4	10.6	0		40.6	59.4	0		
PHF	.856	.891	.000	.887	.951	.900	.000	.958	.742	.813	.000	.782	.982
Cars	177	698	0	875	743	88	0	831	89	130	0	219	1925
% Cars	99.4	98.4	0	98.6	98.2	97.8	0	98.1	100	100	0	100	98.6
Heavy Vehicles	1	11	0	12	14	2	0	16	0	0	0	0	28
% Heavy Vehicles	0.6	1.6	0	1.4	1.8	2.2	0	1.9	0	0	0	0	1.4





PRECISION
D A T A
INDUSTRIES, LLC

46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

N/S Hammond Pond Parkway
W: Mall Driveway
City, State: Chestnut Hill, MA
Client: Toole Design/ J. Dempsey

File Name : 165337 BB
Site Code : TBA
Start Date : 11/5/2016
Page No : 1

Groups Printed- Cars - Heavy Vehicles

	Hammond Pond Parkway From North			Hammond Pond Parkway From South			Mall Driveway From West			
Start Time	Right	Thru	U-Turn	Thru	Left	U-Turn	Right	Left	U-Turn	Int. Total
11:00 AM	37	97	0	124	19	0	16	24	0	317
11:15 AM	47	86	0	152	31	0	21	25	1	363
11:30 AM	59	93	0	136	29	0	27	20	0	364
11:45 AM	52	83	0	158	30	0	31	35	0	389
Total	195	359	0	570	109	0	95	104	1	1433
12:00 PM	47	108	0	139	30	0	26	34	0	384
12:15 PM	49	103	0	112	24	0	22	28	0	338
12:30 PM	49	115	0	111	29	0	32	30	1	367
12:45 PM	66	118	0	142	26	0	43	26	0	421
Total	211	444	0	504	109	0	123	118	1	1510
01:00 PM	59	111	0	143	33	0	42	50	0	438
01:15 PM	54	129	0	119	36	0	27	28	0	393
01:30 PM	61	112	0	114	30	0	46	35	0	398
01:45 PM	67	113	0	146	36	1	45	41	0	449
Total	241	465	0	522	135	1	160	154	0	1678
Grand Total	647	1268	0	1596	353	1	378	376	2	4621
Apprch %	33.8	66.2	0	81.8	18.1	0.1	50	49.7	0.3	
Total %	14	27.4	0	34.5	7.6	0	8.2	8.1	0	
Cars	644	1248	0	1585	347	1	378	376	2	4581
% Cars	99.5	98.4	0	99.3	98.3	100	100	100	100	99.1
Heavy Vehicles	3	20	0	11	6	0	0	0	0	40
% Heavy Vehicles	0.5	1.6	0	0.7	1.7	0	0	0	0	0.9

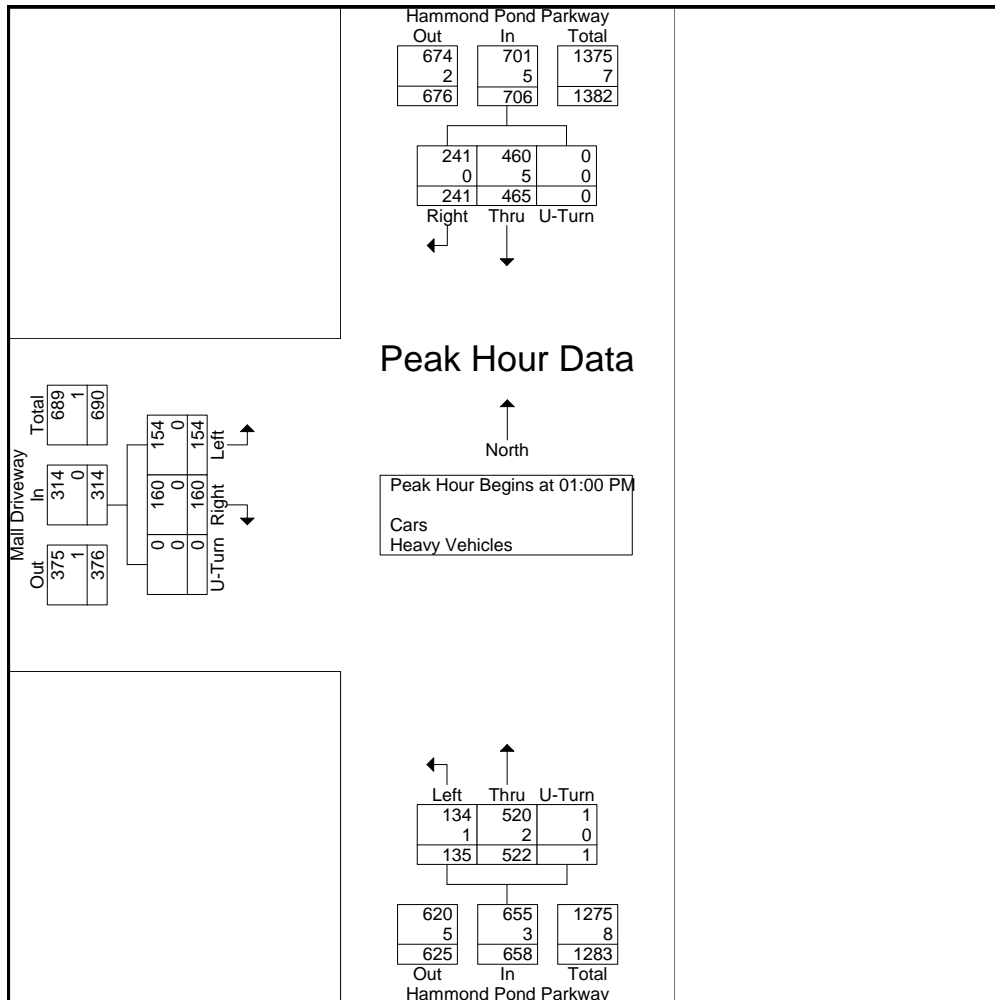
	Hammond Pond Parkway From North				Hammond Pond Parkway From South				Mall Driveway From West				
Start Time	Right	Thru	U-Turn	App. Total	Thru	Left	U-Turn	App. Total	Right	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 11:00 AM to 01:45 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 01:00 PM													
01:00 PM	59	111	0	170	143	33	0	176	42	50	0	92	438
01:15 PM	54	129	0	183	119	36	0	155	27	28	0	55	393
01:30 PM	61	112	0	173	114	30	0	144	46	35	0	81	398
01:45 PM	67	113	0	180	146	36	1	183	45	41	0	86	449
Total Volume	241	465	0	706	522	135	1	658	160	154	0	314	1678
% App. Total	34.1	65.9	0		79.3	20.5	0.2		51	49	0		
PHF	.899	.901	.000	.964	.894	.938	.250	.899	.870	.770	.000	.853	.934
Cars	241	460	0	701	520	134	1	655	160	154	0	314	1670
% Cars	100	98.9	0	99.3	99.6	99.3	100	99.5	100	100	0	100	99.5
Heavy Vehicles	0	5	0	5	2	1	0	3	0	0	0	0	8
% Heavy Vehicles	0	1.1	0	0.7	0.4	0.7	0	0.5	0	0	0	0	0.5

N/S Hammond Pond Parkway
W: Mall Driveway
City, State: Chestnut Hill, MA
Client: Toole Design/ J. Dempsey



File Name : 165337 BB
Site Code : TBA
Start Date : 11/5/2016
Page No : 1

	Hammond Pond Parkway From North				Hammond Pond Parkway From South				Mall Driveway From West				
Start Time	Right	Thru	U-Turn	App. Total	Thru	Left	U-Turn	App. Total	Right	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 11:00 AM to 01:45 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 01:00 PM													
01:00 PM	59	111	0	170	143	33	0	176	42	50	0	92	438
01:15 PM	54	129	0	183	119	36	0	155	27	28	0	55	393
01:30 PM	61	112	0	173	114	30	0	144	46	35	0	81	398
01:45 PM	67	113	0	180	146	36	1	183	45	41	0	86	449
Total Volume	241	465	0	706	522	135	1	658	160	154	0	314	1678
% App. Total	34.1	65.9	0		79.3	20.5	0.2		51	49	0		
PHF	.899	.901	.000	.964	.894	.938	.250	.899	.870	.770	.000	.853	.934
Cars	241	460	0	701	520	134	1	655	160	154	0	314	1670
% Cars	100	98.9	0	99.3	99.6	99.3	100	99.5	100	100	0	100	99.5
Heavy Vehicles	0	5	0	5	2	1	0	3	0	0	0	0	8
% Heavy Vehicles	0	1.1	0	0.7	0.4	0.7	0	0.5	0	0	0	0	0.5





PRECISION
D A T A
INDUSTRIES, LLC

46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

N/S: Hammond Pond Parkway
E: Plaza Driveway
City, State: Chestnut Hill, MA
Client: Toole Design/ J. Dempsey

File Name : 165337 C
Site Code : TBA
Start Date : 11/3/2016
Page No : 1

Groups Printed- Cars - Heavy Vehicles

	Hammond Pond Parkway From North			Plaza Driveway From East			Hammond Pond Parkway From South			
Start Time	Thru	Left	U-Turn	Right	Left	U-Turn	Right	Thru	U-Turn	Int. Total
07:00 AM	61	8	0	2	1	0	12	209	0	293
07:15 AM	88	6	0	2	4	0	21	282	0	403
07:30 AM	117	11	0	1	1	0	34	311	0	475
07:45 AM	143	14	0	5	3	0	35	341	0	541
Total	409	39	0	10	9	0	102	1143	0	1712
08:00 AM	127	4	0	4	8	0	38	311	0	492
08:15 AM	111	8	0	6	5	0	26	295	0	451
08:30 AM	91	13	0	4	2	0	25	291	0	426
08:45 AM	110	12	0	8	6	0	30	264	0	430
Total	439	37	0	22	21	0	119	1161	0	1799
09:00 AM	82	5	0	8	5	0	31	240	0	371
09:15 AM	93	10	0	6	1	0	24	190	0	324
09:30 AM	79	19	0	14	5	0	17	192	1	327
09:45 AM	98	11	0	9	7	0	13	171	0	309
Total	352	45	0	37	18	0	85	793	1	1331
10:00 AM	68	15	0	12	17	0	11	130	0	253
10:15 AM	73	10	0	13	7	0	11	134	0	248
10:30 AM	65	15	0	16	18	0	11	114	0	239
10:45 AM	75	13	0	19	14	0	14	97	0	232
Total	281	53	0	60	56	0	47	475	0	972
11:00 AM	72	17	0	24	19	0	16	87	0	235
11:15 AM	75	18	0	14	13	0	14	127	1	262
11:30 AM	85	18	0	21	18	0	17	124	0	283
11:45 AM	75	16	0	19	35	0	21	155	0	321
Total	307	69	0	78	85	0	68	493	1	1101
12:00 PM	92	17	0	22	27	0	16	129	0	303
12:15 PM	65	21	0	20	26	0	19	117	0	268
12:30 PM	108	21	0	25	27	0	6	105	1	293
12:45 PM	96	23	0	9	21	0	15	117	0	281
Total	361	82	0	76	101	0	56	468	1	1145
01:00 PM	95	26	0	24	33	0	15	119	0	312
01:15 PM	82	9	0	22	39	0	15	106	0	273
01:30 PM	137	24	0	39	35	0	9	126	0	370
01:45 PM	109	18	0	26	31	0	18	123	0	325
Total	423	77	0	111	138	0	57	474	0	1280
02:00 PM	103	20	0	18	43	0	12	133	0	329
02:15 PM	104	11	0	25	38	0	7	151	0	336
02:30 PM	110	20	0	18	32	0	14	168	0	362
02:45 PM	160	21	0	23	33	0	16	140	0	393
Total	477	72	0	84	146	0	49	592	0	1420
03:00 PM	170	13	0	25	28	0	11	149	0	396
03:15 PM	183	22	0	27	26	0	7	180	0	445
03:30 PM	158	23	0	32	29	0	12	158	1	413
03:45 PM	167	26	0	23	21	0	17	174	0	428
Total	678	84	0	107	104	0	47	661	1	1682
04:00 PM	155	11	0	33	26	0	9	168	0	402
04:15 PM	197	20	0	31	24	0	20	154	0	446
04:30 PM	147	20	0	31	25	0	16	139	0	378
04:45 PM	168	15	0	23	25	0	27	172	2	432
Total	667	66	0	118	100	0	72	633	2	1658



PRECISION
D A T A
INDUSTRIES, LLC

46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

N/S: Hammond Pond Parkway
E: Plaza Driveway
City, State: Chestnut Hill, MA
Client: Toole Design/ J. Dempsey

File Name : 165337 C
Site Code : TBA
Start Date : 11/3/2016
Page No : 2

Groups Printed- Cars - Heavy Vehicles

	Hammond Pond Parkway From North			Plaza Driveway From East			Hammond Pond Parkway From South			
Start Time	Thru	Left	U-Turn	Right	Left	U-Turn	Right	Thru	U-Turn	Int. Total
05:00 PM	179	26	0	33	25	0	16	172	0	451
05:15 PM	193	23	2	25	31	0	14	173	0	461
05:30 PM	167	23	0	28	28	0	20	191	0	457
05:45 PM	156	26	0	21	28	0	20	198	0	449
Total	695	98	2	107	112	0	70	734	0	1818
06:00 PM	181	25	0	29	23	0	12	185	0	455
06:15 PM	161	38	0	23	23	0	19	156	0	420
06:30 PM	158	30	0	27	25	0	16	152	0	408
06:45 PM	133	22	0	16	26	0	12	145	0	354
Total	633	115	0	95	97	0	59	638	0	1637
Grand Total	5722	837	2	905	987	0	831	8265	6	17555
Apprch %	87.2	12.8	0	47.8	52.2	0	9.1	90.8	0.1	
Total %	32.6	4.8	0	5.2	5.6	0	4.7	47.1	0	
Cars	5603	827	2	889	950	0	817	8083	6	17177
% Cars	97.9	98.8	100	98.2	96.3	0	98.3	97.8	100	97.8
Heavy Vehicles	119	10	0	16	37	0	14	182	0	378
% Heavy Vehicles	2.1	1.2	0	1.8	3.7	0	1.7	2.2	0	2.2

	Hammond Pond Parkway From North				Plaza Driveway From East				Hammond Pond Parkway From South				
Start Time	Thru	Left	U-Turn	App. Total	Right	Left	U-Turn	App. Total	Right	Thru	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 07:30 AM													
07:30 AM	117	11	0	128	1	1	0	2	34	311	0	345	475
07:45 AM	143	14	0	157	5	3	0	8	35	341	0	376	541
08:00 AM	127	4	0	131	4	8	0	12	38	311	0	349	492
08:15 AM	111	8	0	119	6	5	0	11	26	295	0	321	451
Total Volume	498	37	0	535	16	17	0	33	133	1258	0	1391	1959
% App. Total	93.1	6.9	0		48.5	51.5	0		9.6	90.4	0		
PHF	.871	.661	.000	.852	.667	.531	.000	.688	.875	.922	.000	.925	.905
Cars	484	35	0	519	16	15	0	31	130	1244	0	1374	1924
% Cars	97.2	94.6	0	97.0	100	88.2	0	93.9	97.7	98.9	0	98.8	98.2
Heavy Vehicles	14	2	0	16	0	2	0	2	3	14	0	17	35
% Heavy Vehicles	2.8	5.4	0	3.0	0	11.8	0	6.1	2.3	1.1	0	1.2	1.8

Peak Hour Analysis From 10:00 AM to 01:45 PM - Peak 1 of 1
Peak Hour for Entire Intersection Begins at 01:00 PM

01:00 PM	95	26	0	121	24	33	0	57	15	119	0	134	312
01:15 PM	82	9	0	91	22	39	0	61	15	106	0	121	273
01:30 PM	137	24	0	161	39	35	0	74	9	126	0	135	370
01:45 PM	109	18	0	127	26	31	0	57	18	123	0	141	325
Total Volume	423	77	0	500	111	138	0	249	57	474	0	531	1280
% App. Total	84.6	15.4	0		44.6	55.4	0		10.7	89.3	0		
PHF	.772	.740	.000	.776	.712	.885	.000	.841	.792	.940	.000	.941	.865
Cars	415	75	0	490	110	135	0	245	57	461	0	518	1253
% Cars	98.1	97.4	0	98.0	99.1	97.8	0	98.4	100	97.3	0	97.6	97.9
Heavy Vehicles	8	2	0	10	1	3	0	4	0	13	0	13	27
% Heavy Vehicles	1.9	2.6	0	2.0	0.9	2.2	0	1.6	0	2.7	0	2.4	2.1



PRECISION
D A T A
INDUSTRIES, LLC

46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

N/S: Hammond Pond Parkway
E: Plaza Driveway
City, State: Chestnut Hill, MA
Client: Toole Design/ J. Dempsey

File Name : 165337 C
Site Code : TBA
Start Date : 11/3/2016
Page No : 3

	Hammond Pond Parkway From North				Plaza Driveway From East				Hammond Pond Parkway From South				
Start Time	Thru	Left	U-Turn	App. Total	Right	Left	U-Turn	App. Total	Right	Thru	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 02:00 PM to 06:45 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 05:15 PM													
05:15 PM	193	23	2	218	25	31	0	56	14	173	0	187	461
05:30 PM	167	23	0	190	28	28	0	56	20	191	0	211	457
05:45 PM	156	26	0	182	21	28	0	49	20	198	0	218	449
06:00 PM	181	25	0	206	29	23	0	52	12	185	0	197	455
Total Volume	697	97	2	796	103	110	0	213	66	747	0	813	1822
% App. Total	87.6	12.2	0.3		48.4	51.6	0		8.1	91.9	0		
PHF	.903	.933	.250	.913	.888	.887	.000	.951	.825	.943	.000	.932	.988
Cars	687	96	2	785	103	109	0	212	65	730	0	795	1792
% Cars	98.6	99.0	100	98.6	100	99.1	0	99.5	98.5	97.7	0	97.8	98.4
Heavy Vehicles	10	1	0	11	0	1	0	1	1	17	0	18	30
% Heavy Vehicles	1.4	1.0	0	1.4	0	0.9	0	0.5	1.5	2.3	0	2.2	1.6



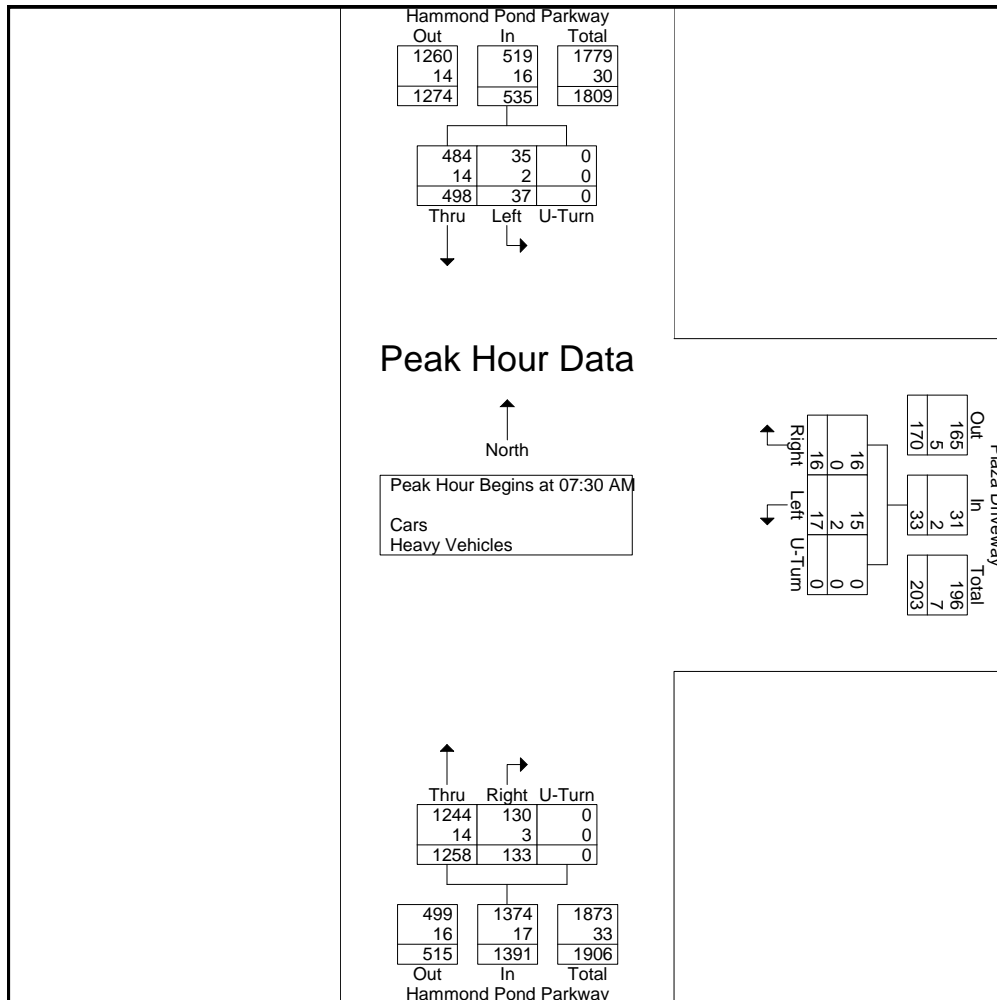
PRECISION
D A T A
INDUSTRIES, LLC

46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

N/S: Hammond Pond Parkway
E: Plaza Driveway
City, State: Chestnut Hill, MA
Client: Toole Design/ J. Dempsey

File Name : 165337 C
Site Code : TBA
Start Date : 11/3/2016
Page No : 1

	Hammond Pond Parkway From North				Plaza Driveway From East				Hammond Pond Parkway From South				
Start Time	Thru	Left	U-Turn	App. Total	Right	Left	U-Turn	App. Total	Right	Thru	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 07:30 AM													
07:30 AM	117	11	0	128	1	1	0	2	34	311	0	345	475
07:45 AM	143	14	0	157	5	3	0	8	35	341	0	376	541
08:00 AM	127	4	0	131	4	8	0	12	38	311	0	349	492
08:15 AM	111	8	0	119	6	5	0	11	26	295	0	321	451
Total Volume	498	37	0	535	16	17	0	33	133	1258	0	1391	1959
% App. Total	93.1	6.9	0		48.5	51.5	0		9.6	90.4	0		
PHF	.871	.661	.000	.852	.667	.531	.000	.688	.875	.922	.000	.925	.905
Cars	484	35	0	519	16	15	0	31	130	1244	0	1374	1924
% Cars	97.2	94.6	0	97.0	100	88.2	0	93.9	97.7	98.9	0	98.8	98.2
Heavy Vehicles	14	2	0	16	0	2	0	2	3	14	0	17	35
% Heavy Vehicles	2.8	5.4	0	3.0	0	11.8	0	6.1	2.3	1.1	0	1.2	1.8





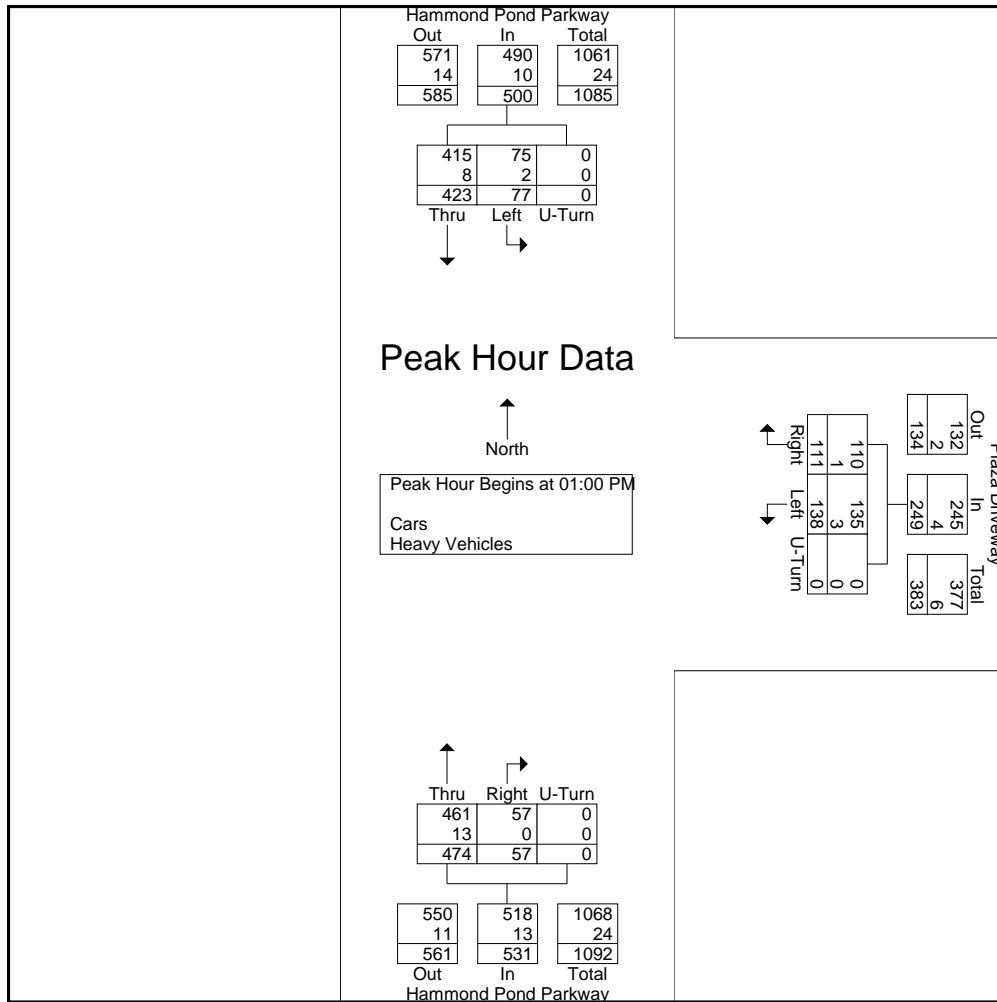
PRECISION
D A T A
INDUSTRIES, LLC

46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

N/S: Hammond Pond Parkway
E: Plaza Driveway
City, State: Chestnut Hill, MA
Client: Toole Design/ J. Dempsey

File Name : 165337 C
Site Code : TBA
Start Date : 11/3/2016
Page No : 2

	Hammond Pond Parkway From North				Plaza Driveway From East				Hammond Pond Parkway From South				
Start Time	Thru	Left	U-Turn	App. Total	Right	Left	U-Turn	App. Total	Right	Thru	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 10:00 AM to 01:45 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 01:00 PM													
01:00 PM	95	26	0	121	24	33	0	57	15	119	0	134	312
01:15 PM	82	9	0	91	22	39	0	61	15	106	0	121	273
01:30 PM	137	24	0	161	39	35	0	74	9	126	0	135	370
01:45 PM	109	18	0	127	26	31	0	57	18	123	0	141	325
Total Volume	423	77	0	500	111	138	0	249	57	474	0	531	1280
% App. Total	84.6	15.4	0		44.6	55.4	0		10.7	89.3	0		
PHF	.772	.740	.000	.776	.712	.885	.000	.841	.792	.940	.000	.941	.865
Cars	415	75	0	490	110	135	0	245	57	461	0	518	1253
% Cars	98.1	97.4	0	98.0	99.1	97.8	0	98.4	100	97.3	0	97.6	97.9
Heavy Vehicles	8	2	0	10	1	3	0	4	0	13	0	13	27
% Heavy Vehicles	1.9	2.6	0	2.0	0.9	2.2	0	1.6	0	2.7	0	2.4	2.1





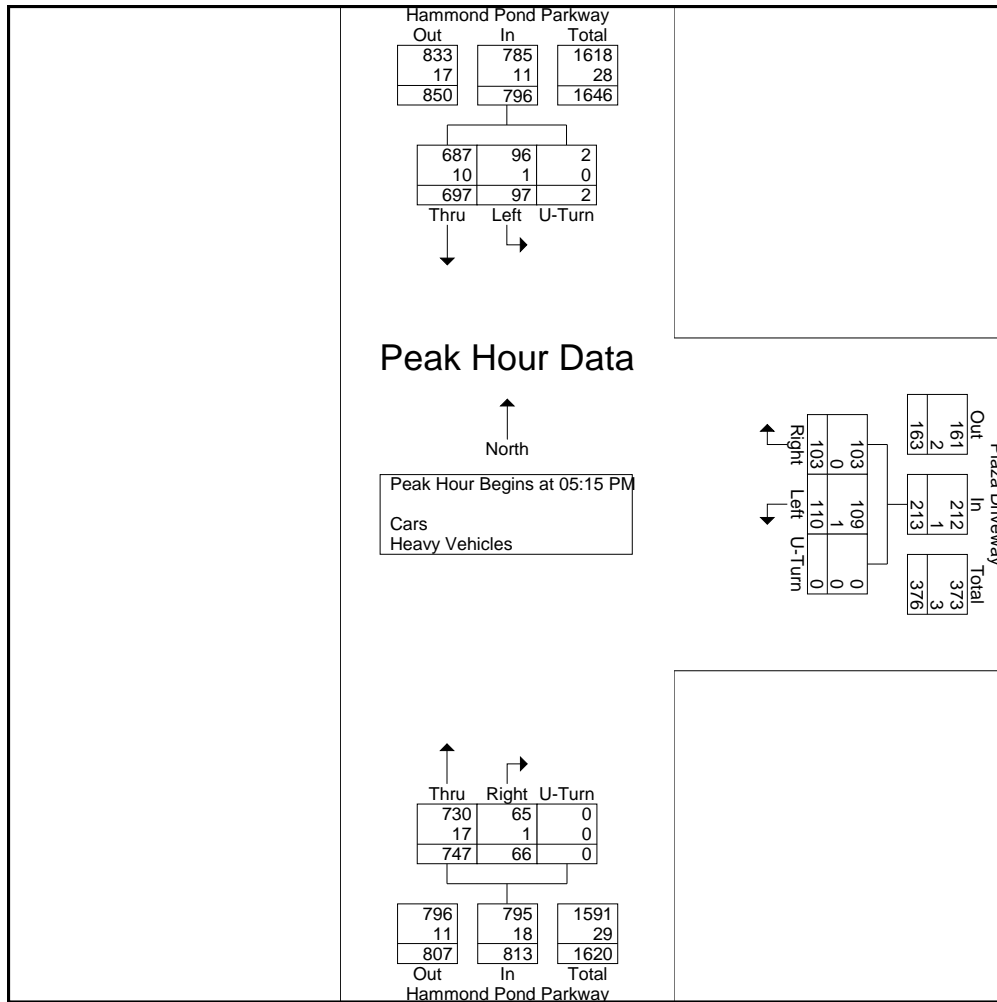
PRECISION
D A T A
INDUSTRIES, LLC

46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

N/S: Hammond Pond Parkway
E: Plaza Driveway
City, State: Chestnut Hill, MA
Client: Toole Design/ J. Dempsey

File Name : 165337 C
Site Code : TBA
Start Date : 11/3/2016
Page No : 3

	Hammond Pond Parkway From North				Plaza Driveway From East				Hammond Pond Parkway From South				
Start Time	Thru	Left	U-Turn	App. Total	Right	Left	U-Turn	App. Total	Right	Thru	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 02:00 PM to 06:45 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 05:15 PM													
05:15 PM	193	23	2	218	25	31	0	56	14	173	0	187	461
05:30 PM	167	23	0	190	28	28	0	56	20	191	0	211	457
05:45 PM	156	26	0	182	21	28	0	49	20	198	0	218	449
06:00 PM	181	25	0	206	29	23	0	52	12	185	0	197	455
Total Volume	697	97	2	796	103	110	0	213	66	747	0	813	1822
% App. Total	87.6	12.2	0.3		48.4	51.6	0		8.1	91.9	0		
PHF	.903	.933	.250	.913	.888	.887	.000	.951	.825	.943	.000	.932	.988
Cars	687	96	2	785	103	109	0	212	65	730	0	795	1792
% Cars	98.6	99.0	100	98.6	100	99.1	0	99.5	98.5	97.7	0	97.8	98.4
Heavy Vehicles	10	1	0	11	0	1	0	1	1	17	0	18	30
% Heavy Vehicles	1.4	1.0	0	1.4	0	0.9	0	0.5	1.5	2.3	0	2.2	1.6





PRECISION
D A T A
INDUSTRIES, LLC

46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

N/S: Hammond Pond Parkway
E: Plaza Driveway
City, State: Chestnut Hill, MA
Client: Toole Design/ J. Dempsey

File Name : 165337 CC
Site Code : TBA
Start Date : 11/5/2016
Page No : 1

Groups Printed- Cars - Heavy Vehicles

	Hammond Pond Parkway From North			Plaza Driveway From East			Hammond Pond Parkway From South			
Start Time	Thru	Left	U-Turn	Right	Left	U-Turn	Right	Thru	U-Turn	Int. Total
11:00 AM	93	19	0	13	16	0	14	128	1	284
11:15 AM	78	21	0	17	25	0	11	169	1	322
11:30 AM	95	25	0	20	24	0	15	143	0	322
11:45 AM	100	23	0	22	23	0	20	162	0	350
Total	366	88	0	72	88	0	60	602	2	1278
12:00 PM	113	23	0	19	26	0	18	140	0	339
12:15 PM	103	20	1	20	22	0	10	117	1	294
12:30 PM	110	27	0	18	34	0	13	119	0	321
12:45 PM	122	40	0	26	26	0	17	145	0	376
Total	448	110	1	83	108	0	58	521	1	1330
01:00 PM	111	32	1	30	28	0	17	153	0	372
01:15 PM	122	25	0	24	35	0	13	129	0	348
01:30 PM	120	32	0	27	34	0	25	114	0	352
01:45 PM	132	25	0	38	44	0	18	141	0	398
Total	485	114	1	119	141	0	73	537	0	1470
Grand Total	1299	312	2	274	337	0	191	1660	3	4078
Apprch %	80.5	19.3	0.1	44.8	55.2	0	10.3	89.5	0.2	
Total %	31.9	7.7	0	6.7	8.3	0	4.7	40.7	0.1	
Cars	1282	312	2	274	335	0	190	1642	3	4040
% Cars	98.7	100	100	100	99.4	0	99.5	98.9	100	99.1
Heavy Vehicles	17	0	0	0	2	0	1	18	0	38
% Heavy Vehicles	1.3	0	0	0	0.6	0	0.5	1.1	0	0.9

	Hammond Pond Parkway From North				Plaza Driveway From East				Hammond Pond Parkway From South				
Start Time	Thru	Left	U-Turn	App. Total	Right	Left	U-Turn	App. Total	Right	Thru	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 11:00 AM to 01:45 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 01:00 PM													
01:00 PM	111	32	1	144	30	28	0	58	17	153	0	170	372
01:15 PM	122	25	0	147	24	35	0	59	13	129	0	142	348
01:30 PM	120	32	0	152	27	34	0	61	25	114	0	139	352
01:45 PM	132	25	0	157	38	44	0	82	18	141	0	159	398
Total Volume	485	114	1	600	119	141	0	260	73	537	0	610	1470
% App. Total	80.8	19	0.2		45.8	54.2	0		12	88	0		
PHF	.919	.891	.250	.955	.783	.801	.000	.793	.730	.877	.000	.897	.923
Cars	481	114	1	596	119	141	0	260	73	533	0	606	1462
% Cars	99.2	100	100	99.3	100	100	0	100	100	99.3	0	99.3	99.5
Heavy Vehicles	4	0	0	4	0	0	0	0	0	4	0	4	8
% Heavy Vehicles	0.8	0	0	0.7	0	0	0	0	0	0.7	0	0.7	0.5



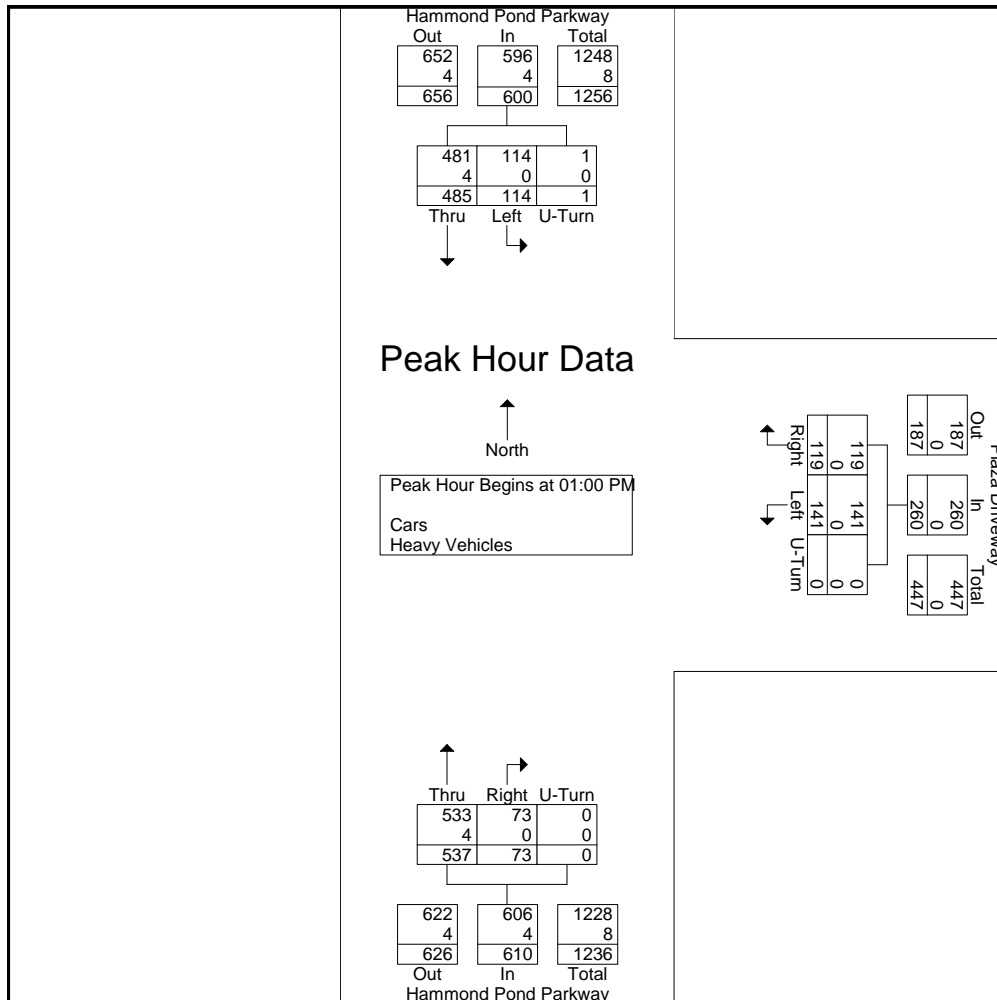
PRECISION
D A T A
INDUSTRIES, LLC

46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

N/S: Hammond Pond Parkway
E: Plaza Driveway
City, State: Chestnut Hill, MA
Client: Toole Design/ J. Dempsey

File Name : 165337 CC
Site Code : TBA
Start Date : 11/5/2016
Page No : 1

	Hammond Pond Parkway From North				Plaza Driveway From East				Hammond Pond Parkway From South				
Start Time	Thru	Left	U-Turn	App. Total	Right	Left	U-Turn	App. Total	Right	Thru	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 11:00 AM to 01:45 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 01:00 PM													
01:00 PM	111	32	1	144	30	28	0	58	17	153	0	170	372
01:15 PM	122	25	0	147	24	35	0	59	13	129	0	142	348
01:30 PM	120	32	0	152	27	34	0	61	25	114	0	139	352
01:45 PM	132	25	0	157	38	44	0	82	18	141	0	159	398
Total Volume	485	114	1	600	119	141	0	260	73	537	0	610	1470
% App. Total	80.8	19	0.2		45.8	54.2	0		12	88	0		
PHF	.919	.891	.250	.955	.783	.801	.000	.793	.730	.877	.000	.897	.923
Cars	481	114	1	596	119	141	0	260	73	533	0	606	1462
% Cars	99.2	100	100	99.3	100	100	0	100	100	99.3	0	99.3	99.5
Heavy Vehicles	4	0	0	4	0	0	0	0	0	4	0	4	8
% Heavy Vehicles	0.8	0	0	0.7	0	0	0	0	0	0.7	0	0.7	0.5





PRECISION
D A T A
INDUSTRIES, LLC

46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

N/S/SW: Hammond Pond Pkwy/ U-Turn Ramp
E/W:Route 9 WB Offramp/Route 9 WB Onramp
City, State: Chestnut Hill, MA
Client: Toole Design/ J. Dempsey

File Name : 165337 D
Site Code : TBA
Start Date : 11/3/2016
Page No : 1

Groups Printed- Cars - Heavy Vehicles

Start Time	Hammond Pond Parkway From North					Route 9 WB Offramp From East					Hammond Pond Parkway From South					U-Turn Ramp From Southwest					Route 9 WB Onramp From West					Int. Total
	Right	Bear Right	Thru	Left	U-Turn	Right	Thru	Bear Left	Left	U-Turn	Right	Thru	Left	Hard Left	U-Turn	Hard Right	Bear Right	Bear Left	Hard Left	U-Turn	Hard Right	Right	Thru	Left	U-Turn	
07:00 AM	6	0	55	0	0	14	0	0	3	0	0	213	182	0	0	0	0	0	44	0	0	0	0	0	0	517
07:15 AM	12	0	77	0	0	14	0	0	7	0	0	295	162	0	0	0	0	0	27	0	0	0	0	0	0	594
07:30 AM	12	0	106	0	0	13	0	0	8	0	0	347	170	0	0	0	0	0	56	0	0	0	0	0	0	712
07:45 AM	13	0	127	0	0	15	0	0	10	0	0	373	164	0	2	0	0	0	48	0	0	0	0	0	0	752
Total	43	0	365	0	0	56	0	0	28	0	0	1228	678	0	2	0	0	0	175	0	0	0	0	0	0	2575
08:00 AM	17	0	126	0	0	9	3	0	4	0	0	361	177	0	1	0	0	0	53	0	0	0	0	0	0	751
08:15 AM	15	0	97	0	0	12	1	0	20	0	0	313	151	0	2	0	0	0	66	0	0	0	0	0	0	677
08:30 AM	14	0	81	0	0	16	0	0	10	0	0	310	144	0	0	0	0	0	54	0	0	0	0	0	0	629
08:45 AM	13	0	95	0	0	18	0	0	14	0	0	284	164	0	1	0	0	0	51	0	0	0	0	0	0	640
Total	59	0	399	0	0	55	4	0	48	0	0	1268	636	0	4	0	0	0	224	0	0	0	0	0	0	2697
09:00 AM	11	0	78	0	0	9	3	0	11	0	0	275	151	0	0	0	0	0	77	0	0	0	0	0	0	615
09:15 AM	9	0	85	0	0	18	2	0	8	0	0	203	135	0	1	0	0	0	73	0	0	0	0	0	0	534
09:30 AM	9	0	73	0	0	10	1	0	9	0	0	208	130	0	1	0	0	0	79	0	0	0	0	0	0	520
09:45 AM	19	0	82	0	0	18	0	0	6	0	0	176	137	0	0	0	0	0	106	0	0	0	0	0	0	544
Total	48	0	318	0	0	55	6	0	34	0	0	862	553	0	2	0	0	0	335	0	0	0	0	0	0	2213
10:00 AM	28	0	64	0	0	13	1	0	11	0	0	137	119	0	0	0	0	0	72	0	0	0	0	0	0	445
10:15 AM	17	0	61	0	0	16	1	0	6	0	0	136	91	0	0	0	0	0	95	0	0	0	0	0	0	423
10:30 AM	16	0	69	0	0	14	3	0	7	0	0	116	115	0	2	0	0	0	96	0	0	0	0	0	0	438
10:45 AM	21	0	78	0	0	12	5	0	8	0	0	102	127	0	0	0	0	0	103	0	0	0	0	0	0	456
Total	82	0	272	0	0	55	10	0	32	0	0	491	452	0	2	0	0	0	366	0	0	0	0	0	0	1762
11:00 AM	22	0	69	0	0	14	4	0	13	0	0	95	87	0	1	0	0	0	97	0	0	0	0	0	0	402
11:15 AM	21	0	66	0	0	18	2	0	10	0	0	135	127	0	1	0	0	0	109	0	0	0	0	0	0	489
11:30 AM	21	0	80	0	0	11	4	0	7	0	0	139	111	0	0	0	0	0	100	0	0	0	0	0	0	473
11:45 AM	33	0	75	0	0	18	3	0	12	0	0	164	95	0	0	0	0	0	109	0	0	0	0	0	0	509
Total	97	0	290	0	0	61	13	0	42	0	0	533	420	0	2	0	0	0	415	0	0	0	0	0	0	1873
12:00 PM	41	0	78	0	0	16	5	0	11	0	0	135	97	0	0	0	0	0	123	0	0	0	0	0	0	506
12:15 PM	20	0	68	0	0	17	1	0	15	0	0	124	116	0	1	0	0	0	123	0	0	0	0	0	0	485
12:30 PM	26	0	114	0	0	16	8	0	15	0	0	112	107	0	0	0	0	0	126	0	0	0	0	0	0	524
12:45 PM	27	0	85	0	0	18	2	0	9	0	0	123	89	0	0	0	0	0	102	0	0	0	0	0	0	455
Total	114	0	345	0	0	67	16	0	50	0	0	494	409	0	1	0	0	0	474	0	0	0	0	0	0	1970
01:00 PM	26	0	99	0	0	23	1	0	13	0	0	114	103	0	0	0	0	0	107	0	0	0	0	0	0	486
01:15 PM	31	0	97	0	0	20	6	0	9	0	0	111	92	0	2	0	0	0	92	0	0	0	0	0	0	460
01:30 PM	31	0	135	0	0	19	2	0	15	0	0	117	99	0	1	0	0	0	88	0	0	0	0	0	0	507
01:45 PM	35	0	98	0	0	12	4	0	10	0	0	138	87	0	1	0	0	0	108	0	0	0	0	0	0	493
Total	123	0	429	0	0	74	13	0	47	0	0	480	381	0	4	0	0	0	395	0	0	0	0	0	0	1946
02:00 PM	35	0	111	0	0	20	1	0	12	0	0	129	84	0	2	0	0	0	106	0	0	0	0	0	0	500
02:15 PM	32	0	117	0	0	11	1	0	7	0	0	153	110	0	1	0	0	0	101	0	0	0	0	0	0	533
02:30 PM	27	0	112	0	0	15	1	0	12	0	0	175	147	0	0	0	0	0	87	0	0	0	0	0	0	576
02:45 PM	37	0	152	0	0	14	6	0	7	0	0	150	106	0	1	0	0	0	88	0	0	0	0	0	0	561
Total	131	0	492	0	0	60	9	0	38	0	0	607	447	0	4	0	0	0	382	0	0	0	0	0	0	2170
03:00 PM	35	0	166	0	0	17	1	0	19	0	0	146	112	0	0	0	0	0	80	0	0	0	0	0	0	576
03:15 PM	27	0	177	0	0	25	5	0	11	0	0	169	103	0	1	0	0	0	60	0	0	0	0	0	0	578
03:30 PM	30	0	152	0	0	23	2	0	15	0	0	152	95	0	0	0	0	0	84	0	0	0	0	0	0	553
03:45 PM	31	0	156	0	0	24	4	0	22	0	0	170	126	0	2	0	0	0	67	0	0	0	0	0	0	602
Total	123	0	651	0	0	89	12	0	67	0	0	637	436	0	3	0	0	0	291	0	0	0	0	0	0	2309
04:00 PM	23	0	158	0	0	29	7	0	13	0	0	148	100	0	2	0	0	0	76	0	0	0	0	0	0	556
04:15 PM	28	0	198	0	0	20	4	0	13	0	0	164	104	0	1	0	0	0	68	0	0	0	0	0	0	600



PRECISION
D A T A
INDUSTRIES, LLC

46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

N/S/SW: Hammond Pond Pkwy/ U-Turn Ramp
E/W: Route 9 WB Offramp/Route 9 WB Onramp
City, State: Chestnut Hill, MA
Client: Toole Design/ J. Dempsey

File Name : 165337 D
Site Code : TBA
Start Date : 11/3/2016
Page No : 2

Groups Printed- Cars - Heavy Vehicles

	Hammond Pond Parkway From North					Route 9 WB Offramp From East					Hammond Pond Parkway From South					U-Turn Ramp From Southwest					Route 9 WB Onramp From West					
Start Time	Right	Bear Right	Thru	Left	U-Turn	Right	Thru	Bear Left	Left	U-Turn	Right	Thru	Left	Hard Left	U-Turn	Hard Right	Bear Right	Bear Left	Hard Left	U-Turn	Hard Right	Right	Thru	Left	U-Turn	Int. Total
04:30 PM	22	0	137	0	0	23	4	0	12	0	0	139	74	0	0	0	0	0	78	0	0	0	0	0	0	489
04:45 PM	30	0	179	0	0	24	4	0	6	0	0	188	128	0	1	0	0	0	73	0	0	0	0	0	0	633
Total	103	0	672	0	0	96	19	0	44	0	0	639	406	0	4	0	0	0	295	0	0	0	0	0	0	2278
05:00 PM	21	0	170	0	0	22	2	0	16	0	0	168	109	0	0	0	0	0	79	0	0	0	0	0	0	587
05:15 PM	31	0	198	0	0	22	3	0	17	0	0	179	105	0	0	0	0	0	101	0	0	0	0	0	0	656
05:30 PM	30	0	170	0	0	32	3	0	9	0	0	184	114	0	1	0	0	0	70	0	0	0	0	0	0	613
05:45 PM	26	0	155	0	0	29	3	0	10	0	0	203	105	0	0	0	0	0	76	0	0	0	0	0	0	607
Total	108	0	693	0	0	105	11	0	52	0	0	734	433	0	1	0	0	0	326	0	0	0	0	0	0	2463
06:00 PM	37	0	164	0	0	22	1	0	9	0	0	192	118	0	0	0	0	0	68	0	0	0	0	0	0	611
06:15 PM	32	0	141	0	0	25	8	0	8	0	0	165	109	0	1	0	0	0	98	0	0	0	0	0	0	587
06:30 PM	30	0	135	0	0	21	0	0	13	0	0	166	95	0	1	0	0	0	84	0	0	0	0	0	0	545
06:45 PM	26	0	126	0	0	14	2	0	8	0	0	158	95	0	0	0	0	0	81	0	0	0	0	0	0	510
Total	125	0	566	0	0	82	11	0	38	0	0	681	417	0	2	0	0	0	331	0	0	0	0	0	0	2253
Grand Total	1156	0	5492	0	0	855	124	0	520	0	0	8654	5668	0	31	0	0	0	4009	0	0	0	0	0	0	26509
Apprch %	17.4	0	82.6	0	0	57	8.3	0	34.7	0	0	60.3	39.5	0	0.2	0	0	0	100	0	0	0	0	0	0	0
Total %	4.4	0	20.7	0	0	3.2	0.5	0	2	0	0	32.6	21.4	0	0.1	0	0	0	15.1	0	0	0	0	0	0	0
Cars	1130	0	5369	0	0	759	119	0	511	0	0	8557	5552	0	31	0	0	0	3911	0	0	0	0	0	0	25939
% Cars	97.8	0	97.8	0	0	88.8	96	0	98.3	0	0	98.9	98	0	100	0	0	0	97.6	0	0	0	0	0	0	97.8
Heavy Vehicles	26	0	123	0	0	96	5	0	9	0	0	97	116	0	0	0	0	0	98	0	0	0	0	0	0	570
% Heavy Vehicles	2.2	0	2.2	0	0	11.2	4	0	1.7	0	0	1.1	2	0	0	0	0	0	2.4	0	0	0	0	0	0	2.2

	Hammond Pond Parkway From North						Route 9 WB Offramp From East						Hammond Pond Parkway From South						U-Turn Ramp From Southwest						Route 9 WB Onramp From West						
Start Time	Right	Bear Right	Thru	Left	U-Turn	App. Total	Right	Thru	Bear Left	Left	U-Turn	App. Total	Right	Thru	Left	Hard Left	U-Turn	App. Total	Hard Right	Bear Right	Bear Left	Hard Left	U-Turn	App. Total	Hard Right	Right	Thru	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																															
Peak Hour for Entire Intersection Begins at 07:30 AM																															
07:30 AM	12	0	106	0	0	118	13	0	0	8	0	21	0	347	170	0	0	517	0	0	0	56	0	56	0	0	0	0	0	0	712
07:45 AM	13	0	127	0	0	140	15	0	0	10	0	25	0	373	164	0	2	539	0	0	0	48	0	48	0	0	0	0	0	0	752
08:00 AM	17	0	126	0	0	143	9	3	0	4	0	16	0	361	177	0	1	539	0	0	0	53	0	53	0	0	0	0	0	0	751
08:15 AM	15	0	97	0	0	112	12	1	0	20	0	33	0	313	151	0	2	466	0	0	0	66	0	66	0	0	0	0	0	0	677
Total Volume	57	0	456	0	0	513	49	4	0	42	0	95	0	1394	662	0	5	2061	0	0	0	223	0	223	0	0	0	0	0	0	2892
% App. Total	11.1	0	88.9	0	0		51.6	4.2	0	44.2	0		0	67.6	32.1	0	0.2		0	0	0	100	0		0	0	0	0	0		
PHF	.838	.000	.898	.000	.000	.897	.817	.333	.000	.525	.000	.720	.000	.934	.935	.000	.625	.956	.000	.000	.000	.845	.000	.845	.000	.000	.000	.000	.000	.000	.961
Cars	56	0	440	0	0	496	41	4	0	42	0	87	0	1381	652	0	5	2038	0	0	0	218	0	218	0	0	0	0	0	0	2839
% Cars	98.2	0	96.5	0	0	96.7	83.7	100	0	100	0	91.6	0	99.1	98.5	0	100	98.9	0	0	0	97.8	0	97.8	0	0	0	0	0	0	98.2
Heavy Vehicles	1	0	16	0	0	17	8	0	0	0	0	8	0	13	10	0	0	23	0	0	0	5	0	5	0	0	0	0	0	0	53
% Heavy Vehicles	1.8	0	3.5	0	0	3.3	16.3	0	0	0	0	8.4	0	0.9	1.5	0	0	1.1	0	0	0	2.2	0	2.2	0	0	0	0	0	0	1.8

Peak Hour Analysis From 10:00 AM to 01:45 PM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 11:45 AM

11:45 AM	33	0	75	0	0	108	18	3	0	12	0	33	0	164	95	0	0	259	0	0	0	109	0	109	0	0	0	0	0	0	509
12:00 PM	41	0	78	0	0	119	16	5	0	11	0	32	0	135	97	0	0	232	0	0	0	123	0	123	0	0	0	0	0	0	506
12:15 PM	20	0	68	0	0	88	17	1	0	15	0	33	0	124	116	0	1	241	0	0	0	123	0	123	0	0	0	0	0	0	485
12:30 PM	26	0	114	0	0	140	16	8	0	15	0	39	0	112	107	0	0	219	0	0	0	126	0	126	0	0	0	0	0	0	524
Total Volume	120	0	335	0	0	455	67	17	0	53	0	137	0	535	415	0	1	951	0	0	0	481	0	481	0	0	0	0	0	0	2024
% App. Total	26.4	0	73.6	0	0		48.9	12.4	0	38.7	0		0	56.3	43.6	0	0.1		0	0	0	100	0		0	0	0	0	0		
PHF	.732	.000	.735	.000	.000	.813	.931	.531	.000	.883	.000	.878	.000	.816	.894	.000	.250	.918	.000	.000	.000	.954	.000	.954	.000	.000	.000	.000	.000	.000	.966
Cars	116	0	327	0	0	443	58	17	0	52	0	127	0	531	412	0	1	944	0	0	0	467	0	467	0	0	0	0	0	0	1981
% Cars	96.7	0	97.6	0	0	97.4	86.6	100	0	98.1	0	92.7	0	99.3	99.3	0	100	99.3	0	0	0	97.1	0	97.1	0	0	0	0	0	0	97.9
Heavy Vehicles	4	0	8	0	0	12	9	0	0	1	0	10	0	4	3	0	0	7	0	0	0	14	0	14	0	0	0	0	0	0	43
% Heavy Vehicles	3.3	0	2.4	0	0	2.6	13.4	0	0	1.9	0	7.3	0	0.7	0.7	0	0	0.7	0	0	0	2.9	0	2.9	0	0	0	0	0	0	2.1



PRECISION
D A T A
INDUSTRIES, LLC

46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

N/S/SW: Hammond Pond Pkwy/ U-Turn Ramp
E/W: Route 9 WB Offramp/Route 9 WB Onramp
City, State: Chestnut Hill, MA
Client: Toole Design/ J. Dempsey

File Name : 165337 D
Site Code : TBA
Start Date : 11/3/2016
Page No : 3

	Hammond Pond Parkway From North						Route 9 WB Offramp From East						Hammond Pond Parkway From South						U-Turn Ramp From Southwest						Route 9 WB Onramp From West						
Start Time	Right	Bear Right	Thru	Left	U- Turn	App. Total	Right	Thru	Bear Left	Left	U- Turn	App. Total	Right	Thru	Left	Hard Left	U- Turn	App. Total	Hard Right	Bear Right	Bear Left	Hard Left	U- Turn	App. Total	Hard Right	Right	Thru	Left	U- Turn	App. Total	Int. Total
Peak Hour Analysis From 02:00 PM to 06:45 PM - Peak 1 of 1																															
Peak Hour for Entire Intersection Begins at 04:45 PM																															
04:45 PM	30	0	179	0	0	209	24	4	0	6	0	34	0	188	128	0	1	317	0	0	0	73	0	73	0	0	0	0	0	0	633
05:00 PM	21	0	170	0	0	191	22	2	0	16	0	40	0	168	109	0	0	277	0	0	0	79	0	79	0	0	0	0	0	0	587
05:15 PM	31	0	198	0	0	229	22	3	0	17	0	42	0	179	105	0	0	284	0	0	0	101	0	101	0	0	0	0	0	0	656
05:30 PM	30	0	170	0	0	200	32	3	0	9	0	44	0	184	114	0	1	299	0	0	0	70	0	70	0	0	0	0	0	0	613
Total Volume	112	0	717	0	0	829	100	12	0	48	0	160	0	719	456	0	2	1177	0	0	0	323	0	323	0	0	0	0	0	0	2489
% App. Total	13.5	0	86.5	0	0		62.5	7.5	0	30	0		0	61.1	38.7	0	0.2		0	0	0	100	0		0	0	0	0	0		
PHF	.903	.000	.905	.000	.000	.905	.781	.750	.000	.706	.000	.909	.000	.956	.891	.000	.500	.928	.000	.000	.000	.800	.000	.800	.000	.000	.000	.000	.000	.000	.949
Cars	110	0	707	0	0	817	91	12	0	45	0	148	0	713	449	0	2	1164	0	0	0	322	0	322	0	0	0	0	0	0	2451
% Cars	98.2	0	98.6	0	0	98.6	91.0	100	0	93.8	0	92.5	0	99.2	98.5	0	100	98.9	0	0	0	99.7	0	99.7	0	0	0	0	0	0	98.5
Heavy Vehicles	2	0	10	0	0	12	9	0	0	3	0	12	0	6	7	0	0	13	0	0	0	1	0	1	0	0	0	0	0	0	38
% Heavy Vehicles	1.8	0	1.4	0	0	1.4	9.0	0	0	6.3	0	7.5	0	0.8	1.5	0	0	1.1	0	0	0	0.3	0	0.3	0	0	0	0	0	0	1.5



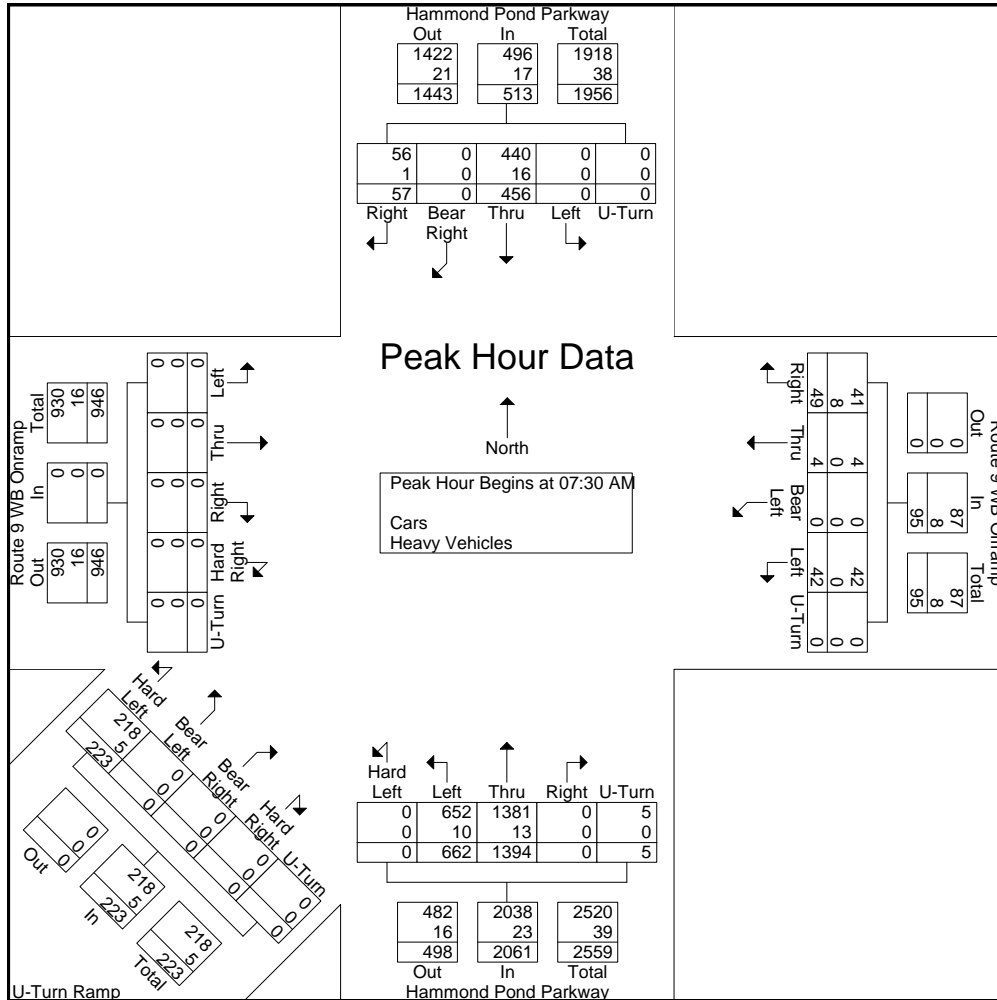
PRECISION
D A T A
INDUSTRIES, LLC

46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

File Name : 165337 D
Site Code : TBA
Start Date : 11/3/2016
Page No : 1

N/S/SW: Hammond Pond Pkwy/ U-Turn Ramp
E/W: Route 9 WB Offramp/Route 9 WB Onramp
City, State: Chestnut Hill, MA
Client: Toole Design/ J. Dempsey

	Hammond Pond Parkway From North						Route 9 WB Offramp From East						Hammond Pond Parkway From South						U-Turn Ramp From Southwest						Route 9 WB Onramp From West						
Start Time	Right	Bear Right	Thru	Left	U-Turn	App. Total	Right	Thru	Bear Left	Left	U-Turn	App. Total	Right	Thru	Left	Hard Left	U-Turn	App. Total	Hard Right	Bear Right	Bear Left	Hard Left	U-Turn	App. Total	Hard Right	Right	Thru	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																															
Peak Hour for Entire Intersection Begins at 07:30 AM																															
07:30 AM	12	0	106	0	0	118	13	0	0	8	0	21	0	347	170	0	0	517	0	0	0	56	0	56	0	0	0	0	0	0	712
07:45 AM	13	0	127	0	0	140	15	0	0	10	0	25	0	373	164	0	2	539	0	0	0	48	0	48	0	0	0	0	0	0	752
08:00 AM	17	0	126	0	0	143	9	3	0	4	0	16	0	361	177	0	1	539	0	0	0	53	0	53	0	0	0	0	0	0	751
08:15 AM	15	0	97	0	0	112	12	1	0	20	0	33	0	313	151	0	2	466	0	0	0	66	0	66	0	0	0	0	0	0	677
Total Volume	57	0	456	0	0	513	49	4	0	42	0	95	0	1394	662	0	5	2061	0	0	0	223	0	223	0	0	0	0	0	0	2892
% App. Total	11.1	0	88.9	0	0		51.6	4.2	0	44.2	0		0	67.6	32.1	0	0.2		0	0	0	100	0		0	0	0	0	0		
PHF	.838	.000	.898	.000	.000	.897	.817	.333	.000	.525	.000	.720	.000	.934	.935	.000	.625	.956	.000	.000	.000	.845	.000	.845	.000	.000	.000	.000	.000	.000	.961
Cars	56	0	440	0	0	496	41	4	0	42	0	87	0	1381	652	0	5	2038	0	0	0	218	0	218	0	0	0	0	0	0	2839
% Cars	98.2	0	96.5	0	0	96.7	83.7	100	0	100	0	91.6	0	99.1	98.5	0	100	98.9	0	0	0	97.8	0	97.8	0	0	0	0	0	0	98.2
Heavy Vehicles	1	0	16	0	0	17	8	0	0	0	0	8	0	13	10	0	0	23	0	0	0	5	0	5	0	0	0	0	0	0	53
% Heavy Vehicles	1.8	0	3.5	0	0	3.3	16.3	0	0	0	0	8.4	0	0.9	1.5	0	0	1.1	0	0	0	2.2	0	2.2	0	0	0	0	0	0	1.8





N/S/SW: Hammond Pond Pkwy/ U-Turn Ramp
E/W:Route 9 WB Offramp/Route 9 WB Onramp
City, State: Chestnut Hill, MA
Client: Toole Design/ J. Dempsey

File Name : 165337 D
Site Code : TBA
Start Date : 11/3/2016
Page No : 2

Hammond Pond Parkway

Out	In	Total
589	443	1032
13	12	25
602	455	1057

Route 9 WB Onramp

Out	In	Total
1012	0	1012
21	0	21
1033	0	1033

Peak Hour Data

North

Peak Hour Begins at 11:45 AM

Cars
Heavy Vehicles

Hammond Pond Parkway

Hard Left	Left	Thru	Right	U-Turn
0	412	531	0	1
0	3	4	0	0
0	415	535	0	1

Route 9 WB Onramp

Out	In	Total
0	127	127
0	10	10
0	137	137

Hammond Pond Parkway

Out	In	Total
379	944	1323
9	7	16
388	951	1339

Route 9 WB Onramp

Out	In	Total
0	127	127
0	10	10
0	137	137

Hammond Pond Parkway

Hard Left	Left	Thru	Right	U-Turn
0	412	531	0	1
0	3	4	0	0
0	415	535	0	1

Route 9 WB Onramp

Out	In	Total
0	127	127
0	10	10
0	137	137

Hammond Pond Parkway

Out	In	Total
379	944	1323
9	7	16
388	951	1339

Route 9 WB Onramp

Out	In	Total
0	127	127
0	10	10
0	137	137

Hammond Pond Parkway

Out	In	Total
379	944	1323
9	7	16
388	951	1339

Route 9 WB Onramp

Out	In	Total
0	127	127
0	10	10
0	137	137

Hammond Pond Parkway

Out	In	Total
379	944	1323
9	7	16
388	951	1339

Route 9 WB Onramp

Out	In	Total
0	127	127
0	10	10
0	137	137

Hammond Pond Parkway

Out	In	Total
379	944	1323
9	7	16
388	951	1339

Route 9 WB Onramp

Out	In	Total
0	127	127
0	10	10
0	137	137

Hammond Pond Parkway

Out	In	Total
379	944	1323
9	7	16
388	951	1339

Route 9 WB Onramp

Out	In	Total
0	127	127
0	10	10
0	137	137

Hammond Pond Parkway

Out	In	Total
379	944	1323
9	7	16
388	951	1339

Route 9 WB Onramp

Out	In	Total
0	127	127
0	10	10
0	137	137

Hammond Pond Parkway

Out	In	Total
379	944	1323
9	7	16
388	951	1339

Route 9 WB Onramp

Out	In	Total
0	127	127
0	10	10
0	137	137

Hammond Pond Parkway

Out	In	Total
379	944	1323
9	7	16
388	951	1339

Route 9 WB Onramp

Out	In	Total
0	127	127
0	10	1



File Name : 165337 D
Site Code : TBA
Start Date : 11/3/2016
Page No : 3

Hammond Pond Parkway

Out	In	Total
804	817	1621
15	12	27
819	829	1648

Peak Hour Data

North

Peak Hour Begins at 04:45 PM

Cars
Heavy Vehicles

Route 9 WB Onramp

Out	In	Total
893	0	893
10	0	10
903	0	903

U-Turn Ramp

Out	In	Total
0	148	148
0	12	12
0	160	160

Hammond Pond Parkway

Out	In	Total
752	1164	1916
13	13	26
765	1177	1942



PRECISION
D A T A
INDUSTRIES, LLC

46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

N/S/SW: Hammond Pond Pkwy/ U-Turn Ramp
E/W: Route 9 WB Offramp/Route 9 WB Onramp
City, State: Chestnut Hill, MA
Client: Toole Design/ J. Dempsey

File Name : 165337 DD
Site Code : TBA
Start Date : 11/5/2016
Page No : 1

Groups Printed- Cars - Heavy Vehicles

	Hammond Pond Parkway From North					Route 9 WB Offramp From East					Hammond Pond Parkway From South					U-Turn Ramp From Southwest					Route 9 WB Onramp From West					
Start Time	Right	Bear Right	Thru	Left	U-Turn	Right	Thru	Bear Left	Left	U-Turn	Right	Thru	Left	Hard Left	U-Turn	Hard Right	Bear Right	Bear Left	Hard Left	U-Turn	Hard Right	Right	Thru	Left	U-Turn	Int. Total
11:00 AM	26	0	76	0	0	13	6	0	8	0	0	146	155	0	1	0	0	0	88	0	0	0	0	0	0	519
11:15 AM	28	0	74	0	0	22	4	0	10	0	0	172	120	0	2	0	0	0	115	0	0	0	0	0	0	547
11:30 AM	21	0	93	0	0	18	3	0	6	0	0	153	138	0	1	0	0	0	133	0	0	0	0	0	0	566
11:45 AM	24	0	99	0	0	19	9	0	16	0	0	184	156	0	0	0	0	0	137	0	0	0	0	0	0	644
Total	99	0	342	0	0	72	22	0	40	0	0	655	569	0	4	0	0	0	473	0	0	0	0	0	0	2276
12:00 PM	36	0	99	0	0	22	12	0	11	0	0	136	128	0	2	0	0	0	110	0	0	0	0	0	0	556
12:15 PM	27	0	99	0	0	16	10	0	19	0	0	125	153	0	0	0	0	0	118	0	0	0	0	0	0	567
12:30 PM	48	0	102	0	0	28	5	0	10	0	0	117	135	0	1	0	0	0	128	0	0	0	0	0	0	574
12:45 PM	41	0	105	0	0	21	8	0	16	0	0	155	138	0	2	0	0	0	126	0	0	0	0	0	0	612
Total	152	0	405	0	0	87	35	0	56	0	0	533	554	0	5	0	0	0	482	0	0	0	0	0	0	2309
01:00 PM	35	0	110	0	0	18	7	0	11	0	0	169	139	0	0	0	0	0	113	0	0	0	0	0	0	602
01:15 PM	39	0	119	0	0	13	7	0	13	0	0	138	137	0	0	0	0	0	113	0	0	0	0	0	0	579
01:30 PM	30	0	124	0	0	15	0	0	16	0	0	134	134	0	0	0	0	0	115	0	0	0	0	0	0	568
01:45 PM	40	0	127	0	0	15	6	0	12	0	0	149	144	0	2	0	0	0	144	0	0	0	0	0	0	639
Total	144	0	480	0	0	61	20	0	52	0	0	590	554	0	2	0	0	0	485	0	0	0	0	0	0	2388
Grand Total	395	0	1227	0	0	220	77	0	148	0	0	1778	1677	0	11	0	0	0	1440	0	0	0	0	0	0	6973
Apprch %	24.4	0	75.6	0	0	49.4	17.3	0	33.3	0	0	51.3	48.4	0	0.3	0	0	0	100	0	0	0	0	0	0	0
Total %	5.7	0	17.6	0	0	3.2	1.1	0	2.1	0	0	25.5	24	0	0.2	0	0	0	20.7	0	0	0	0	0	0	0
Cars	393	0	1207	0	0	212	76	0	146	0	0	1769	1668	0	11	0	0	0	1427	0	0	0	0	0	0	6909
% Cars	99.5	0	98.4	0	0	96.4	98.7	0	98.6	0	0	99.5	99.5	0	100	0	0	0	99.1	0	0	0	0	0	0	99.1
Heavy Vehicles	2	0	20	0	0	8	1	0	2	0	0	9	9	0	0	0	0	0	13	0	0	0	0	0	0	64
% Heavy Vehicles	0.5	0	1.6	0	0	3.6	1.3	0	1.4	0	0	0.5	0.5	0	0	0	0	0	0.9	0	0	0	0	0	0	0.9

	Hammond Pond Parkway From North					Route 9 WB Offramp From East					Hammond Pond Parkway From South					U-Turn Ramp From Southwest					Route 9 WB Onramp From West										
Start Time	Right	Bear Right	Thru	Left	U- Turn	App. Total	Right	Thru	Bear Left	Left	U- Turn	App. Total	Right	Thru	Left	Hard Left	U- Turn	App. Total	Hard Right	Bear Right	Bear Left	Hard Left	U- Turn	App. Total	Hard Right	Right	Thru	Left	U- Turn	App. Total	Int. Total
Peak Hour Analysis From 11:00 AM to 01:45 PM - Peak 1 of 1																															
Peak Hour for Entire Intersection Begins at 01:00 PM																															
01:00 PM	35	0	110	0	0	145	18	7	0	11	0	36	0	169	139	0	0	308	0	0	0	113	0	113	0	0	0	0	0	0	602
01:15 PM	39	0	119	0	0	158	13	7	0	13	0	33	0	138	137	0	0	275	0	0	0	113	0	113	0	0	0	0	0	0	579
01:30 PM	30	0	124	0	0	154	15	0	0	16	0	31	0	134	134	0	0	268	0	0	0	115	0	115	0	0	0	0	0	0	568
01:45 PM	40	0	127	0	0	167	15	6	0	12	0	33	0	149	144	0	2	295	0	0	0	144	0	144	0	0	0	0	0	0	639
Total Volume	144	0	480	0	0	624	61	20	0	52	0	133	0	590	554	0	2	1146	0	0	0	485	0	485	0	0	0	0	0	0	2388
% App. Total	23.1	0	76.9	0	0		45.9	15	0	39.1	0		0	51.5	48.3	0	0.2		0	0	0	100	0		0	0	0	0	0		
PHF	.900	.000	.945	.000	.000	.934	.847	.714	.000	.813	.000	.924	.000	.873	.962	.000	.250	.930	.000	.000	.000	.842	.000	.842	.000	.000	.000	.000	.000	.000	.934
Cars	143	0	476	0	0	619	58	20	0	52	0	130	0	588	554	0	2	1144	0	0	0	484	0	484	0	0	0	0	0	0	2377
% Cars	99.3	0	99.2	0	0	99.2	95.1	100	0	100	0	97.7	0	99.7	100	0	100	99.8	0	0	0	99.8	0	99.8	0	0	0	0	0	0	99.5
Heavy Vehicles	1	0	4	0	0	5	3	0	0	0	0	3	0	2	0	0	0	2	0	0	0	1	0	1	0	0	0	0	0	0	11
% Heavy Vehicles	0.7	0	0.8	0	0	0.8	4.9	0	0	0	0	2.3	0	0.3	0	0	0	0.2	0	0	0	0.2	0	0.2	0	0	0	0	0	0	0.5

Peak Hour Analysis From 11:00 AM to 01:45 PM - Peak 1 of 1
Peak Hour for Entire Intersection Begins at 01:00 PM



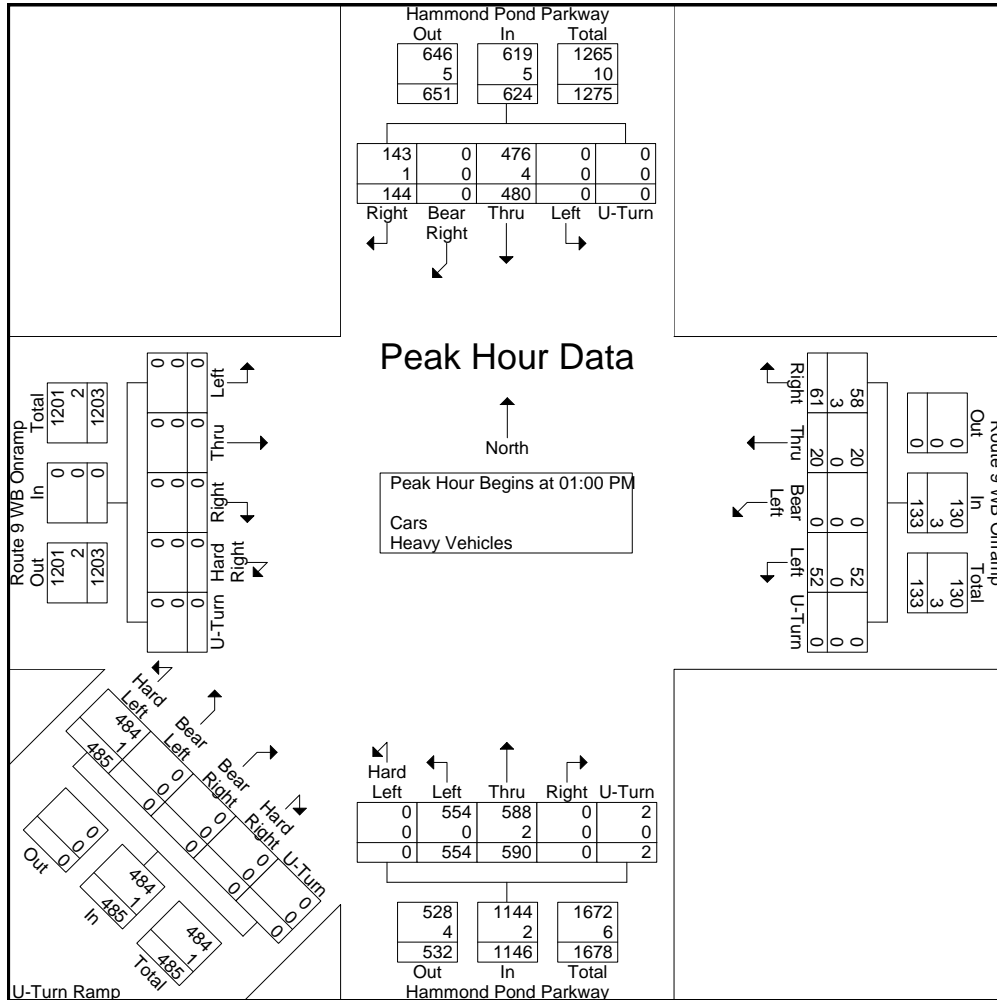
PRECISION
D A T A
INDUSTRIES, LLC

46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

N/S/SW: Hammond Pond Pkwy/ U-Turn Ramp
E/W: Route 9 WB Offramp/Route 9 WB Onramp
City, State: Chestnut Hill, MA
Client: Toole Design/ J. Dempsey

File Name : 165337 DD
Site Code : TBA
Start Date : 11/5/2016
Page No : 1

	Hammond Pond Parkway From North						Route 9 WB Offramp From East						Hammond Pond Parkway From South						U-Turn Ramp From Southwest						Route 9 WB Onramp From West						
Start Time	Right	Bear Right	Thru	Left	U- Turn	App. Total	Right	Thru	Bear Left	Left	U- Turn	App. Total	Right	Thru	Left	Hard Left	U- Turn	App. Total	Hard Right	Bear Right	Bear Left	Hard Left	U- Turn	App. Total	Hard Right	Right	Thru	Left	U- Turn	App. Total	Int. Total
Peak Hour Analysis From 11:00 AM to 01:45 PM - Peak 1 of 1																															
Peak Hour for Entire Intersection Begins at 01:00 PM																															
01:00 PM	35	0	110	0	0	145	18	7	0	11	0	36	0	169	139	0	0	308	0	0	0	113	0	113	0	0	0	0	0	0	602
01:15 PM	39	0	119	0	0	158	13	7	0	13	0	33	0	138	137	0	0	275	0	0	0	113	0	113	0	0	0	0	0	0	579
01:30 PM	30	0	124	0	0	154	15	0	0	16	0	31	0	134	134	0	0	268	0	0	0	115	0	115	0	0	0	0	0	0	568
01:45 PM	40	0	127	0	0	167	15	6	0	12	0	33	0	149	144	0	2	295	0	0	0	144	0	144	0	0	0	0	0	0	639
Total Volume	144	0	480	0	0	624	61	20	0	52	0	133	0	590	554	0	2	1146	0	0	0	485	0	485	0	0	0	0	0	0	2388
% App. Total	23.1	0	76.9	0	0		45.9	15	0	39.1	0		0	51.5	48.3	0	0.2		0	0	0	100	0		0	0	0	0	0	0	
PHF	.900	.000	.945	.000	.000	.934	.847	.714	.000	.813	.000	.924	.000	.873	.962	.000	.250	.930	.000	.000	.000	.842	.000	.842	.000	.000	.000	.000	.000	.000	.934
Cars	143	0	476	0	0	619	58	20	0	52	0	130	0	588	554	0	2	1144	0	0	0	484	0	484	0	0	0	0	0	0	2377
% Cars	99.3	0	99.2	0	0	99.2	95.1	100	0	100	0	97.7	0	99.7	100	0	100	99.8	0	0	0	99.8	0	99.8	0	0	0	0	0	0	99.5
Heavy Vehicles	1	0	4	0	0	5	3	0	0	0	0	3	0	2	0	0	0	2	0	0	0	1	0	1	0	0	0	0	0	0	11
% Heavy Vehicles	0.7	0	0.8	0	0	0.8	4.9	0	0	0	0	2.3	0	0.3	0	0	0	0.2	0	0	0	0.2	0	0.2	0	0	0	0	0	0	0.5





PRECISION
D A T A
INDUSTRIES, LLC

46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

N/SNW: Hammond Pond Parkway/ U-Turn Ramp
E/W: Route 9 EB Onramp/Route 9 EB Offramp
City, State: Chestnut Hill, MA
Client: Toole Design/ J. Dempsey

File Name : 165337 E
Site Code : TBA
Start Date : 11/3/2016
Page No : 1

Groups Printed- Cars - Heavy Vehicles

Start Time	Hammond Pond Parkway From North					Route 9 EB Onramp From East					Hammond Pond Parkway From South					Route 9 EB Offramp From West					U-Turn Ramp From Northwest					Int. Total
	Hard Right	Right	Thru	Left	U-Turn	Right	Bear Right	Thru	Left	U-Turn	Right	Thru	Bear Left	Left	U-Turn	Right	Thru	Left	Hard Left	U-Turn	Hard Right	Bear Right	Bear Left	Hard Left	U-Turn	
07:00 AM	0	0	49	8	0	0	0	0	0	0	9	357	0	0	0	51	2	36	39	0	0	0	0	0	0	551
07:15 AM	0	0	79	8	0	0	0	0	0	0	12	395	0	0	0	56	2	73	31	0	0	0	0	0	0	656
07:30 AM	0	0	94	8	0	0	0	0	0	0	12	388	0	0	0	76	2	86	51	0	0	0	0	0	0	717
07:45 AM	0	0	133	18	0	0	0	0	0	0	16	425	0	0	0	88	3	100	51	0	0	0	0	0	0	834
Total	0	0	355	42	0	0	0	0	0	0	49	1565	0	0	0	271	9	295	172	0	0	0	0	0	0	2758
08:00 AM	0	0	105	14	0	0	0	0	0	0	19	408	0	0	0	84	6	92	56	0	0	0	0	0	0	784
08:15 AM	0	0	91	31	0	0	0	0	0	0	22	361	0	0	0	53	5	82	65	0	0	0	0	0	0	710
08:30 AM	0	0	61	27	0	0	0	0	0	0	22	375	0	0	0	52	4	78	50	0	0	0	0	0	0	669
08:45 AM	0	0	93	21	0	0	0	0	0	0	20	378	0	0	0	63	8	69	56	0	0	0	0	0	0	708
Total	0	0	350	93	0	0	0	0	0	0	83	1522	0	0	0	252	23	321	227	0	0	0	0	0	0	2871
09:00 AM	0	0	67	23	0	0	0	0	0	0	20	321	0	0	0	44	7	62	75	0	0	0	0	0	0	619
09:15 AM	0	0	70	24	0	0	0	0	0	0	25	268	0	0	0	55	4	44	73	0	0	0	0	0	0	563
09:30 AM	0	0	63	18	1	0	0	0	0	0	17	285	0	0	0	40	4	46	78	0	0	0	0	0	0	552
09:45 AM	0	0	62	26	0	0	0	0	0	0	13	262	0	0	0	39	2	37	109	0	0	0	0	0	0	550
Total	0	0	262	91	1	0	0	0	0	0	75	1136	0	0	0	178	17	189	335	0	0	0	0	0	0	2284
10:00 AM	0	0	56	16	1	0	0	0	0	0	16	201	0	0	0	46	4	36	68	0	0	0	0	0	0	444
10:15 AM	0	0	50	16	0	0	0	0	0	0	19	187	0	0	0	48	4	36	103	0	0	0	0	0	0	463
10:30 AM	0	0	68	14	1	0	0	0	0	0	6	175	0	0	0	33	5	42	100	0	0	0	0	0	0	444
10:45 AM	0	0	66	16	0	0	0	0	0	0	24	188	0	0	0	42	3	30	114	0	0	0	0	0	0	483
Total	0	0	240	62	2	0	0	0	0	0	65	751	0	0	0	169	16	144	385	0	0	0	0	0	0	1834
11:00 AM	0	0	60	14	0	0	0	0	0	0	14	151	0	0	0	52	3	30	98	0	0	0	0	0	0	422
11:15 AM	0	0	63	12	0	0	0	0	0	0	13	205	0	0	0	50	6	40	105	0	0	0	0	0	0	494
11:30 AM	0	0	71	12	0	0	0	0	0	0	6	192	0	0	0	52	0	52	94	0	0	0	0	0	0	479
11:45 AM	0	0	72	17	0	0	0	0	0	0	12	220	0	0	0	56	3	38	105	0	0	0	0	0	0	523
Total	0	0	266	55	0	0	0	0	0	0	45	768	0	0	0	210	12	160	402	0	0	0	0	0	0	1918
12:00 PM	0	0	66	19	0	0	0	0	0	0	12	198	0	0	0	53	8	33	125	0	0	0	0	0	0	514
12:15 PM	0	0	60	17	0	0	0	0	0	0	11	191	0	0	0	49	6	37	128	0	0	0	0	0	0	499
12:30 PM	0	0	92	32	0	0	0	0	0	0	21	180	0	0	0	67	4	38	126	0	0	0	0	0	0	560
12:45 PM	0	0	77	19	0	0	0	0	0	0	10	181	0	0	1	39	5	39	100	0	0	0	0	0	0	471
Total	0	0	295	87	0	0	0	0	0	0	54	750	0	0	1	208	23	147	479	0	0	0	0	0	0	2044
01:00 PM	0	0	85	27	1	0	0	0	0	0	14	167	0	0	0	58	2	36	102	0	0	0	0	0	0	492
01:15 PM	0	0	78	24	1	0	0	0	0	0	13	161	0	0	0	46	5	39	97	0	0	0	0	0	0	464
01:30 PM	0	0	136	24	0	0	0	0	0	0	13	172	0	0	0	64	1	34	88	0	0	0	0	0	0	532
01:45 PM	0	0	98	19	0	0	0	0	0	0	10	189	0	0	0	56	2	29	112	0	0	0	0	0	0	515
Total	0	0	397	94	2	0	0	0	0	0	50	689	0	0	0	224	10	138	399	0	0	0	0	0	0	2003
02:00 PM	0	0	98	19	0	0	0	0	0	0	15	188	0	0	0	69	4	37	102	0	0	0	0	0	0	532
02:15 PM	0	0	98	24	0	0	0	0	0	0	19	205	0	0	0	58	4	34	91	0	0	0	0	0	0	533
02:30 PM	0	0	99	26	1	0	0	0	0	0	11	263	0	0	0	70	3	38	91	0	0	0	0	0	0	602
02:45 PM	0	0	140	10	0	0	0	0	0	0	12	216	0	0	0	73	4	33	87	0	0	0	0	0	0	575
Total	0	0	435	79	1	0	0	0	0	0	57	872	0	0	0	270	15	142	371	0	0	0	0	0	0	2242
03:00 PM	0	0	146	25	0	0	0	0	0	0	10	211	0	0	0	79	0	35	83	0	0	0	0	0	0	589
03:15 PM	0	0	161	17	2	0	0	0	0	0	15	235	0	0	0	62	2	41	60	0	0	0	0	0	0	595
03:30 PM	0	0	154	15	0	0	0	0	0	0	13	203	0	0	0	73	6	39	85	0	0	0	0	0	0	588
03:45 PM	0	0	150	21	0	0	0	0	0	0	5	258	0	0	0	82	3	39	64	0	0	0	0	0	0	622
Total	0	0	611	78	2	0	0	0	0	0	43	907	0	0	0	296	11	154	292	0	0	0	0	0	0	2394
04:00 PM	0	0	164	21	0	0	0	0	0	0	12	200	0	0	0	83	1	45	74	0	0	0	0	0	0	600
04:15 PM	0	0	195	18	0	0	0	0	0	0	10	209	0	0	0	75	4	45	72	0	0	0	0	0	0	628



PRECISION
D A T A
INDUSTRIES, LLC

46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

File Name : 165337 E
Site Code : TBA
Start Date : 11/3/2016
Page No : 2

N/SNW: Hammond Pond Parkway/ U-Turn Ramp
E/W: Route 9 EB Onramp/Route 9 EB Offramp
City, State: Chestnut Hill, MA
Client: Toole Design/ J. Dempsey

Groups Printed- Cars - Heavy Vehicles

	Hammond Pond Parkway From North					Route 9 EB Onramp From East					Hammond Pond Parkway From South					Route 9 EB Offramp From West					U-Turn Ramp From Northwest					
Start Time	Hard Right	Right	Thru	Left	U-Turn	Right	Bear Right	Thru	Left	U-Turn	Right	Thru	Bear Left	Left	U-Turn	Right	Thru	Left	Hard Left	U-Turn	Hard Right	Bear Right	Bear Left	Hard Left	U-Turn	Int. Total
04:30 PM	0	0	138	19	0	0	0	0	0	0	10	169	0	0	0	68	3	49	81	0	0	0	0	0	0	537
04:45 PM	0	0	157	23	1	0	0	0	0	0	9	258	0	0	0	60	3	47	69	0	0	0	0	0	0	627
Total	0	0	654	81	1	0	0	0	0	0	41	836	0	0	0	286	11	186	296	0	0	0	0	0	0	2392
05:00 PM	0	0	177	15	0	0	0	0	0	0	11	221	0	0	0	82	2	40	89	0	0	0	0	0	0	637
05:15 PM	0	0	191	27	0	0	0	0	0	0	12	209	0	0	0	84	6	61	91	0	0	0	0	0	0	681
05:30 PM	0	0	152	24	1	0	0	0	0	0	13	241	0	0	0	58	5	55	69	0	0	0	0	0	0	618
05:45 PM	0	0	148	16	0	0	0	0	0	0	10	226	0	0	0	72	6	71	75	0	0	0	0	0	0	624
Total	0	0	668	82	1	0	0	0	0	0	46	897	0	0	0	296	19	227	324	0	0	0	0	0	0	2560
06:00 PM	0	0	156	17	0	0	0	0	0	0	13	219	0	0	0	73	10	57	79	0	0	0	0	0	0	624
06:15 PM	0	0	136	12	1	0	0	0	0	0	11	210	0	0	0	72	8	59	93	0	0	0	0	0	0	602
06:30 PM	0	0	147	15	0	0	0	0	0	0	7	190	0	0	0	64	5	62	81	0	0	0	0	0	0	571
06:45 PM	0	0	128	12	0	0	0	0	0	0	11	163	0	0	1	69	3	58	82	0	0	0	0	0	0	527
Total	0	0	567	56	1	0	0	0	0	0	42	782	0	0	1	278	26	236	335	0	0	0	0	0	0	2324
Grand Total	0	0	5100	900	11	0	0	0	0	0	650	11475	0	0	2	2938	192	2339	4017	0	0	0	0	0	0	27624
Apprch %	0	0	84.8	15	0.2	0	0	0	0	0	5.4	94.6	0	0	0	31	2	24.7	42.3	0	0	0	0	0	0	0
Total %	0	0	18.5	3.3	0	0	0	0	0	0	2.4	41.5	0	0	0	10.6	0.7	8.5	14.5	0	0	0	0	0	0	0
Cars	0	0	5039	827	11	0	0	0	0	0	637	11313	0	0	2	2859	185	2292	3916	0	0	0	0	0	0	27081
% Cars	0	0	98.8	91.9	100	0	0	0	0	0	98	98.6	0	0	100	97.3	96.4	98	97.5	0	0	0	0	0	0	98
Heavy Vehicles	0	0	61	73	0	0	0	0	0	0	13	162	0	0	0	79	7	47	101	0	0	0	0	0	0	543
% Heavy Vehicles	0	0	1.2	8.1	0	0	0	0	0	0	2	1.4	0	0	0	2.7	3.6	2	2.5	0	0	0	0	0	0	2

	Hammond Pond Parkway From North						Route 9 EB Onramp From East						Hammond Pond Parkway From South						Route 9 EB Offramp From West						U-Turn Ramp From Northwest							
Start Time	Hard Right	Right	Thru	Left	U- Turn	App. Total	Right	Bear Right	Thru	Left	U- Turn	App. Total	Right	Thru	Bear Left	Left	U- Turn	App. Total	Right	Thru	Left	Hard Left	U- Turn	App. Total	Hard Right	Bear Right	Bear Left	Hard Left	U- Turn	App. Total	Int. Total	
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																																
Peak Hour for Entire Intersection Begins at 07:30 AM																																
07:30 AM	0	0	94	8	0	102	0	0	0	0	0	0	12	388	0	0	0	400	76	2	86	51	0	215	0	0	0	0	0	0	717	
07:45 AM	0	0	133	18	0	151	0	0	0	0	0	0	16	425	0	0	0	441	88	3	100	51	0	242	0	0	0	0	0	0	834	
08:00 AM	0	0	105	14	0	119	0	0	0	0	0	0	19	408	0	0	0	427	84	6	92	56	0	238	0	0	0	0	0	0	784	
08:15 AM	0	0	91	31	0	122	0	0	0	0	0	0	22	361	0	0	0	383	53	5	82	65	0	205	0	0	0	0	0	0	710	
Total Volume	0	0	423	71	0	494	0	0	0	0	0	0	69	1582	0	0	0	1651	301	16	360	223	0	900	0	0	0	0	0	0	3045	
% App. Total	0	0	85.6	14.4	0		0	0	0	0	0		4.2	95.8	0	0	0		33.4	1.8	40	24.8	0		0	0	0	0	0			
PHF	.000	.000	.795	.573	.000	.818	.000	.000	.000	.000	.000	.000	.784	.931	.000	.000	.000	.936	.855	.667	.900	.858	.000	.930	.000	.000	.000	.000	.000	.000	.913	
Cars	0	0	415	63	0	478	0	0	0	0	0	0	68	1567	0	0	0	1635	294	16	354	217	0	881	0	0	0	0	0	0	2994	
% Cars	0	0	98.1	88.7	0	96.8	0	0	0	0	0	0	98.6	99.1	0	0	0	99.0	97.7	100	98.3	97.3	0	97.9	0	0	0	0	0	0	98.3	
Heavy Vehicles	0	0	8	8	0	16	0	0	0	0	0	0	1	15	0	0	0	16	7	0	6	6	0	19	0	0	0	0	0	0	51	
% Heavy Vehicles	0	0	1.9	11.3	0	3.2	0	0	0	0	0	0	1.4	0.9	0	0	0	1.0	2.3	0	1.7	2.7	0	2.1	0	0	0	0	0	0	1.7	

Peak Hour Analysis From 10:00 AM to 01:45 PM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 11:45 AM

11:45 AM	0	0	72	17	0	89	0	0	0	0	0	0	12	220	0	0	0	232	56	3	38	105	0	202	0	0	0	0	0	0	523
12:00 PM	0	0	66	19	0	85	0	0	0	0	0	0	12	198	0	0	0	210	53	8	33	125	0	219	0	0	0	0	0	0	514
12:15 PM	0	0	60	17	0	77	0	0	0	0	0	0	11	191	0	0	0	202	49	6	37	128	0	220	0	0	0	0	0	0	499
12:30 PM	0	0	92	32	0	124	0	0	0	0	0	0	21	180	0	0	0	201	67	4	38	126	0	235	0	0	0	0	0	0	560
Total Volume	0	0	290	85	0	375	0	0	0	0	0	0	56	789	0	0	0	845	225	21	146	484	0	876	0	0	0	0	0	0	2096
% App. Total	0	0	77.3	22.7	0		0	0	0	0	0		6.6	93.4	0	0	0		25.7	2.4	16.7	55.3	0		0	0	0	0	0		
PHF	.000	.000	.788	.664	.000	.756	.000	.000	.000	.000	.000	.000	.667	.897	.000	.000	.000	.911	.840	.656	.961	.945	.000	.932	.000	.000	.000	.000	.000	.000	.936
Cars	0	0	288	80	0	368	0	0	0	0	0	0	53	783	0	0	0	836	221	21	144	473	0	859	0	0	0	0	0	0	2063
% Cars	0	0	99.3	94.1	0	98.1	0	0	0	0	0	0	94.6	99.2	0	0	0	98.9	98.2	100	98.6	97.7	0	98.1	0	0	0	0	0	0	98.4
Heavy Vehicles	0	0	2	5	0	7	0	0	0	0	0	0	3	6	0	0	0	9	4	0	2	11	0	17	0	0	0	0	0	0	33
% Heavy Vehicles	0	0	0.7	5.9	0	1.9	0	0	0	0	0	0	5.4	0.8	0	0	0	1.1	1.8	0	1.4	2.3	0	1.9	0	0	0	0	0	0	1.6



PRECISION
D A T A
INDUSTRIES, LLC

46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

N/SNW: Hammond Pond Parkway/ U-Turn Ramp
E/W: Route 9 EB Onramp/Route 9 EB Offramp
City, State: Chestnut Hill, MA
Client: Toole Design/ J. Dempsey

File Name : 165337 E
Site Code : TBA
Start Date : 11/3/2016
Page No : 3

	Hammond Pond Parkway From North						Route 9 EB Onramp From East						Hammond Pond Parkway From South						Route 9 EB Offramp From West						U-Turn Ramp From Northwest							
Start Time	Hard Right	Right	Thru	Left	U- Turn	App. Total	Right	Bear Right	Thru	Left	U- Turn	App. Total	Right	Thru	Bear Left	Left	U- Turn	App. Total	Right	Thru	Left	Hard Left	U- Turn	App. Total	Hard Right	Bear Right	Bear Left	Hard Left	U- Turn	App. Total	Int. Total	
Peak Hour Analysis From 02:00 PM to 06:45 PM - Peak 1 of 1																																
Peak Hour for Entire Intersection Begins at 04:45 PM																																
04:45 PM	0	0	157	23	1	181	0	0	0	0	0	0	9	258	0	0	0	267	60	3	47	69	0	179	0	0	0	0	0	0	627	
05:00 PM	0	0	177	15	0	192	0	0	0	0	0	0	11	221	0	0	0	232	82	2	40	89	0	213	0	0	0	0	0	0	637	
05:15 PM	0	0	191	27	0	218	0	0	0	0	0	0	12	209	0	0	0	221	84	6	61	91	0	242	0	0	0	0	0	0	681	
05:30 PM	0	0	152	24	1	177	0	0	0	0	0	0	13	241	0	0	0	254	58	5	55	69	0	187	0	0	0	0	0	0	618	
Total Volume	0	0	677	89	2	768	0	0	0	0	0	0	45	929	0	0	0	974	284	16	203	318	0	821	0	0	0	0	0	0	2563	
% App. Total	0	0	88.2	11.6	0.3		0	0	0	0	0		4.6	95.4	0	0	0		34.6	1.9	24.7	38.7	0		0	0	0	0	0			
PHF	.000	.000	.886	.824	.500	.881	.000	.000	.000	.000	.000	.000	.865	.900	.000	.000	.000	.912	.845	.667	.832	.874	.000	.848	.000	.000	.000	.000	.000	.000	.941	
Cars	0	0	673	80	2	755	0	0	0	0	0	0	45	917	0	0	0	962	280	16	201	317	0	814	0	0	0	0	0	0	2531	
% Cars	0	0	99.4	89.9	100	98.3	0	0	0	0	0	0	100	98.7	0	0	0	98.8	98.6	100	99.0	99.7	0	99.1	0	0	0	0	0	0	98.8	
Heavy Vehicles	0	0	4	9	0	13	0	0	0	0	0	0	0	12	0	0	0	12	4	0	2	1	0	7	0	0	0	0	0	0	32	
% Heavy Vehicles	0	0	0.6	10.1	0	1.7	0	0	0	0	0	0	0	1.3	0	0	0	1.2	1.4	0	1.0	0.3	0	0.9	0	0	0	0	0	0	1.2	



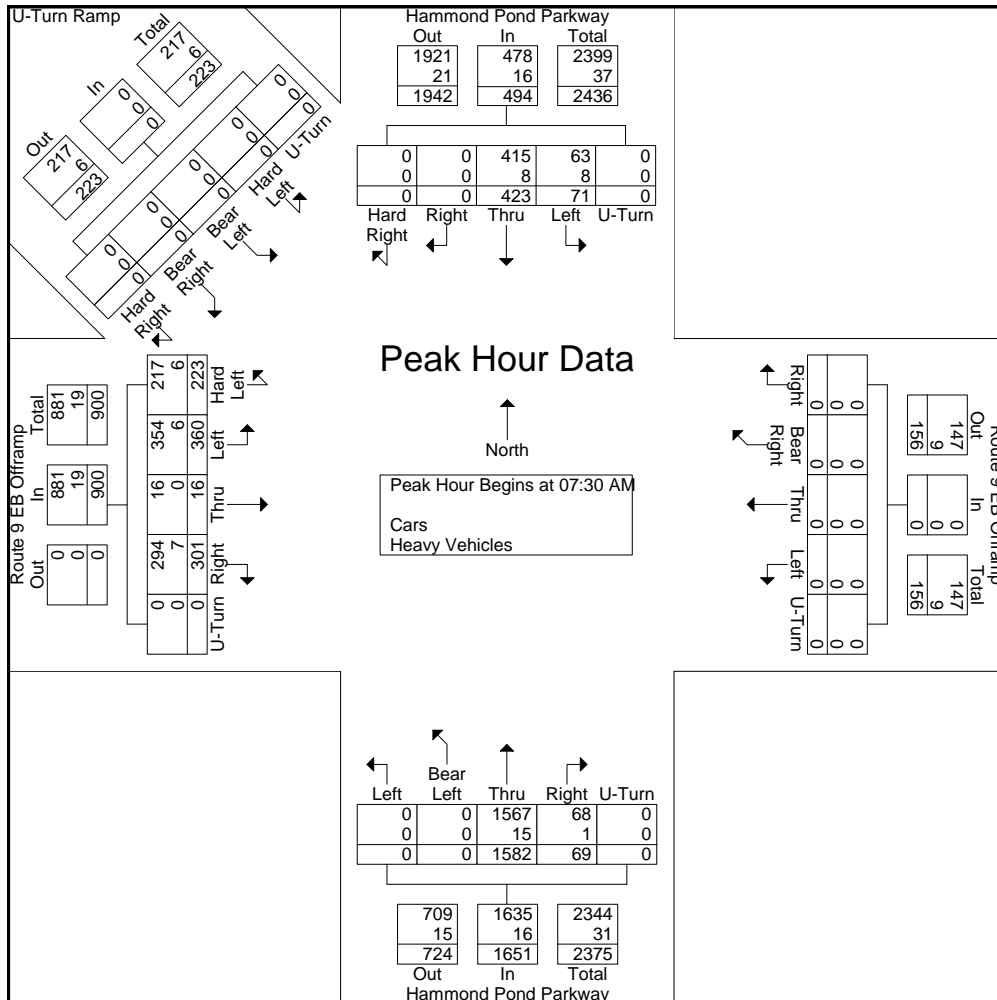
PRECISION
DATA
INDUSTRIES, LLC

46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

N/SNW: Hammond Pond Parkway/ U-Turn Ramp
E/W: Route 9 EB Onramp/Route 9 EB Offramp
City, State: Chestnut Hill, MA
Client: Toole Design/ J. Dempsey

File Name : 165337 E
Site Code : TBA
Start Date : 11/3/2016
Page No : 1

	Hammond Pond Parkway From North						Route 9 EB Onramp From East						Hammond Pond Parkway From South						Route 9 EB Offramp From West						U-Turn Ramp From Northwest						
Start Time	Hard Right	Right	Thru	Left	U- Turn	App. Total	Right	Bear Right	Thru	Left	U- Turn	App. Total	Right	Thru	Bear Left	Left	U- Turn	App. Total	Right	Thru	Left	Hard Left	U- Turn	App. Total	Hard Right	Bear Right	Bear Left	Hard Left	U- Turn	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																															
Peak Hour for Entire Intersection Begins at 07:30 AM																															
07:30 AM	0	0	94	8	0	102	0	0	0	0	0	0	12	388	0	0	0	400	76	2	86	51	0	215	0	0	0	0	0	0	717
07:45 AM	0	0	133	18	0	151	0	0	0	0	0	0	16	425	0	0	0	441	88	3	100	51	0	242	0	0	0	0	0	0	834
08:00 AM	0	0	105	14	0	119	0	0	0	0	0	0	19	408	0	0	0	427	84	6	92	56	0	238	0	0	0	0	0	0	784
08:15 AM	0	0	91	31	0	122	0	0	0	0	0	0	22	361	0	0	0	383	53	5	82	65	0	205	0	0	0	0	0	0	710
Total Volume	0	0	423	71	0	494	0	0	0	0	0	0	69	1582	0	0	0	1651	301	16	360	223	0	900	0	0	0	0	0	0	3045
% App. Total	0	0	85.6	14.4	0		0	0	0	0	0	0	4.2	95.8	0	0	0		.855	.667	.900	.858	.000	.930	0	0	0	0	0	0	
PHF	.000	.000	.795	.573	.000	.818	.000	.000	.000	.000	.000	.000	.784	.931	.000	.000	.000	.936	.855	.667	.900	.858	.000	.930	.000	.000	.000	.000	.000	.000	.913
Cars	0	0	415	63	0	478	0	0	0	0	0	0	68	1567	0	0	0	1635	294	16	354	217	0	881	0	0	0	0	0	0	2994
% Cars	0	0	98.1	88.7	0	96.8	0	0	0	0	0	0	98.6	99.1	0	0	0	99.0	97.7	100	98.3	97.3	0	97.9	0	0	0	0	0	0	98.3
Heavy Vehicles	0	0	8	8	0	16	0	0	0	0	0	0	1	15	0	0	0	16	7	0	6	6	0	19	0	0	0	0	0	0	51
% Heavy Vehicles	0	0	1.9	11.3	0	3.2	0	0	0	0	0	0	1.4	0.9	0	0	0	1.0	2.3	0	1.7	2.7	0	2.1	0	0	0	0	0	0	1.7





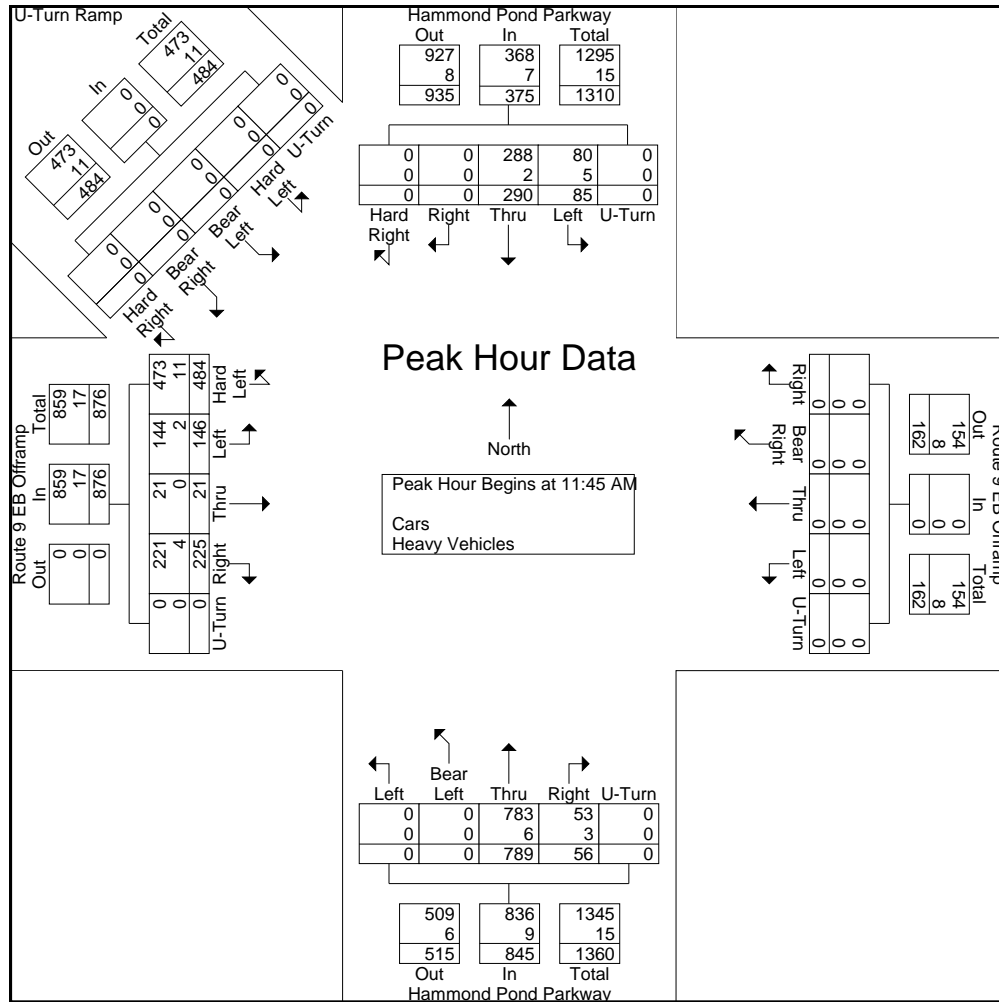
PRECISION
DATA
INDUSTRIES, LLC

46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

N/SNW: Hammond Pond Parkway/ U-Turn Ramp
E/W: Route 9 EB Onramp/Route 9 EB Offramp
City, State: Chestnut Hill, MA
Client: Toole Design/ J. Dempsey

File Name : 165337 E
Site Code : TBA
Start Date : 11/3/2016
Page No : 2

	Hammond Pond Parkway From North						Route 9 EB Onramp From East						Hammond Pond Parkway From South						Route 9 EB Offramp From West						U-Turn Ramp From Northwest						
Start Time	Hard Right	Right	Thru	Left	U- Turn	App. Total	Right	Bear Right	Thru	Left	U- Turn	App. Total	Right	Thru	Bear Left	Left	U- Turn	App. Total	Right	Thru	Left	Hard Left	U- Turn	App. Total	Hard Right	Bear Right	Bear Left	Hard Left	U- Turn	App. Total	Int. Total
Peak Hour Analysis From 10:00 AM to 01:45 PM - Peak 1 of 1																															
Peak Hour for Entire Intersection Begins at 11:45 AM																															
11:45 AM	0	0	72	17	0	89	0	0	0	0	0	0	12	220	0	0	0	232	56	3	38	105	0	202	0	0	0	0	0	0	523
12:00 PM	0	0	66	19	0	85	0	0	0	0	0	0	12	198	0	0	0	210	53	8	33	125	0	219	0	0	0	0	0	0	514
12:15 PM	0	0	60	17	0	77	0	0	0	0	0	0	11	191	0	0	0	202	49	6	37	128	0	220	0	0	0	0	0	0	499
12:30 PM	0	0	92	32	0	124	0	0	0	0	0	0	21	180	0	0	0	201	67	4	38	126	0	235	0	0	0	0	0	0	560
Total Volume	0	0	290	85	0	375	0	0	0	0	0	0	56	789	0	0	0	845	225	21	146	484	0	876	0	0	0	0	0	0	2096
% App. Total	0	0	77.3	22.7	0		0	0	0	0	0		6.6	93.4	0	0	0		25.7	2.4	16.7	55.3	0		0	0	0	0	0		
PHF	.000	.000	.788	.664	.000	.756	.000	.000	.000	.000	.000	.000	.667	.897	.000	.000	.000	.911	.840	.656	.961	.945	.000	.932	.000	.000	.000	.000	.000	.000	.936
Cars	0	0	288	80	0	368	0	0	0	0	0	0	53	783	0	0	0	836	221	21	144	473	0	859	0	0	0	0	0	0	2063
% Cars	0	0	98.3	94.1	0	98.1	0	0	0	0	0	0	94.6	99.2	0	0	0	98.9	98.2	100	98.6	97.7	0	98.1	0	0	0	0	0	0	98.4
Heavy Vehicles	0	0	2	5	0	7	0	0	0	0	0	0	3	6	0	0	0	9	4	0	2	11	0	17	0	0	0	0	0	0	33
% Heavy Vehicles	0	0	0.7	5.9	0	1.9	0	0	0	0	0	0	5.4	0.8	0	0	0	1.1	1.8	0	1.4	2.3	0	1.9	0	0	0	0	0	0	1.6





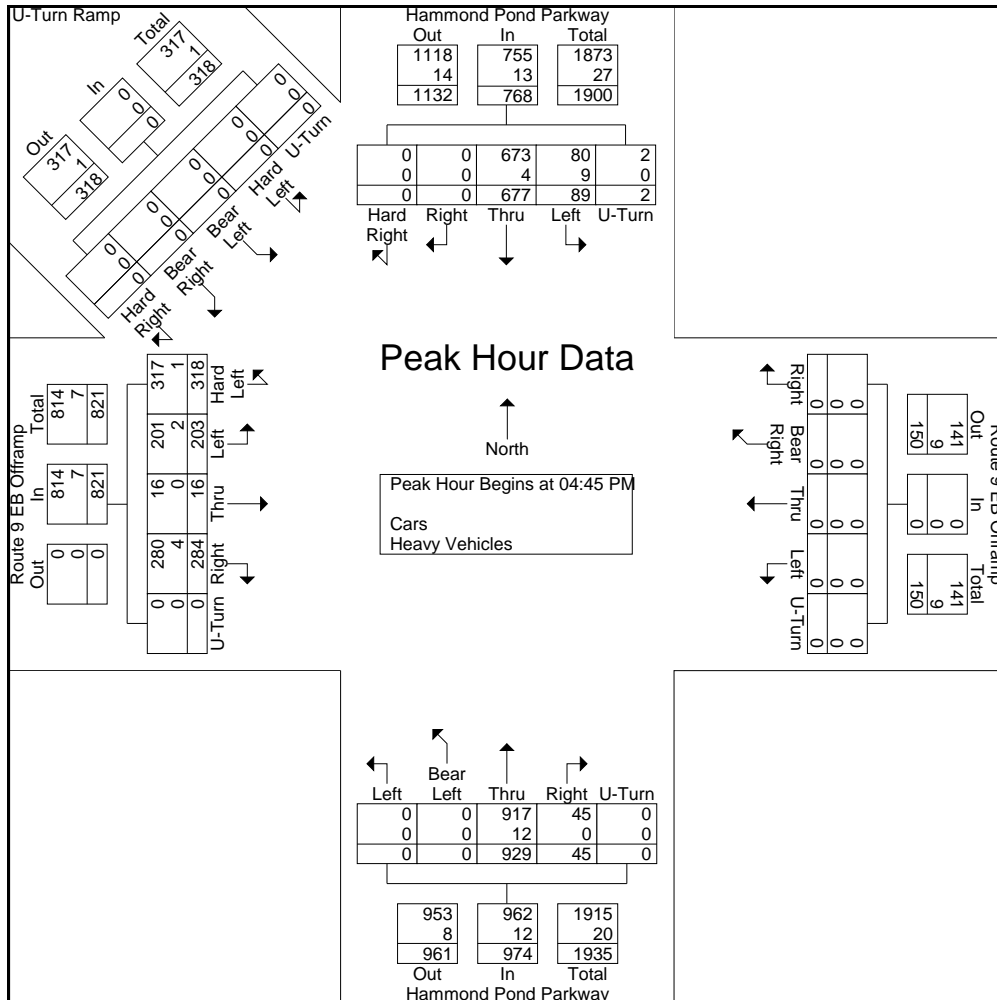
PRECISION
DATA
INDUSTRIES, LLC

46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

N/SNW: Hammond Pond Parkway/ U-Turn Ramp
E/W: Route 9 EB Onramp/Route 9 EB Offramp
City, State: Chestnut Hill, MA
Client: Toole Design/ J. Dempsey

File Name : 165337 E
Site Code : TBA
Start Date : 11/3/2016
Page No : 3

	Hammond Pond Parkway From North						Route 9 EB Onramp From East						Hammond Pond Parkway From South						Route 9 EB Offramp From West						U-Turn Ramp From Northwest						
Start Time	Hard Right	Right	Thru	Left	U- Turn	App. Total	Right	Bear Right	Thru	Left	U- Turn	App. Total	Right	Thru	Bear Left	Left	U- Turn	App. Total	Right	Thru	Left	Hard Left	U- Turn	App. Total	Hard Right	Bear Right	Bear Left	Hard Left	U- Turn	App. Total	Int. Total
Peak Hour Analysis From 02:00 PM to 06:45 PM - Peak 1 of 1																															
Peak Hour for Entire Intersection Begins at 04:45 PM																															
04:45 PM	0	0	157	23	1	181	0	0	0	0	0	0	9	258	0	0	0	267	60	3	47	69	0	179	0	0	0	0	0	0	627
05:00 PM	0	0	177	15	0	192	0	0	0	0	0	0	11	221	0	0	0	232	82	2	40	89	0	213	0	0	0	0	0	0	637
05:15 PM	0	0	191	27	0	218	0	0	0	0	0	0	12	209	0	0	0	221	84	6	61	91	0	242	0	0	0	0	0	0	681
05:30 PM	0	0	152	24	1	177	0	0	0	0	0	0	13	241	0	0	0	254	58	5	55	69	0	187	0	0	0	0	0	0	618
Total Volume	0	0	677	89	2	768	0	0	0	0	0	0	45	929	0	0	0	974	284	16	203	318	0	821	0	0	0	0	0	0	2563
% App. Total	0	0	88.2	11.6	0.3		0	0	0	0	0		4.6	95.4	0	0	0		34.6	1.9	24.7	38.7	0		0	0	0	0	0		
PHF	.000	.000	.886	.824	.500	.881	.000	.000	.000	.000	.000	.000	.865	.900	.000	.000	.000	.912	.845	.667	.832	.874	.000	.848	.000	.000	.000	.000	.000	.000	.941
Cars	0	0	673	80	2	755	0	0	0	0	0	0	45	917	0	0	0	962	280	16	201	317	0	814	0	0	0	0	0	0	2531
% Cars	0	0	99.4	89.9	100	98.3	0	0	0	0	0	0	100	98.7	0	0	0	98.8	98.6	100	99.0	99.7	0	99.1	0	0	0	0	0	0	98.8
Heavy Vehicles	0	0	4	9	0	13	0	0	0	0	0	0	0	12	0	0	0	12	4	0	2	1	0	7	0	0	0	0	0	0	32
% Heavy Vehicles	0	0	0.6	10.1	0	1.7	0	0	0	0	0	0	0	1.3	0	0	0	1.2	1.4	0	1.0	0.3	0	0.9	0	0	0	0	0	0	1.2





PRECISION
D A T A
INDUSTRIES, LLC

46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

N/SNW: Hammond Pond Parkway/ U-Turn Ramp
E/W: Route 9 EB Onramp/Route 9 EB Offramp
City, State: Chestnut Hill, MA
Client: Toole Design/ J. Dempsey

File Name : 165337 EE
Site Code : TBA
Start Date : 11/5/2016
Page No : 1

Groups Printed- Cars - Heavy Vehicles

	Hammond Pond Parkway From North					Route 9 EB Onramp From East					Hammond Pond Parkway From South					Route 9 EB Offramp From West					U-Turn Ramp From Northwest					
Start Time	Hard Right	Right	Thru	Left	U-Turn	Right	Bear Right	Thru	Left	U-Turn	Right	Thru	Bear Left	Left	U-Turn	Right	Thru	Left	Hard Left	U-Turn	Hard Right	Bear Right	Bear Left	Hard Left	U-Turn	Int. Total
11:00 AM	0	0	58	20	1	0	0	0	0	0	18	257	0	0	0	66	6	34	90	0	0	0	0	0	0	550
11:15 AM	0	0	83	12	1	0	0	0	0	0	22	248	0	0	0	59	6	40	115	0	0	0	0	0	0	586
11:30 AM	0	0	89	16	0	0	0	0	0	0	12	248	0	0	0	55	9	46	132	0	0	0	0	0	0	607
11:45 AM	0	0	91	20	0	0	0	0	0	0	19	268	0	0	0	69	7	54	131	0	0	0	0	0	0	659
Total	0	0	321	68	2	0	0	0	0	0	71	1021	0	0	0	249	28	174	468	0	0	0	0	0	0	2402
12:00 PM	0	0	96	19	0	0	0	0	0	0	8	204	0	0	0	56	12	35	113	0	0	0	0	0	0	543
12:15 PM	0	0	101	24	0	0	0	0	0	0	14	222	0	0	0	48	5	30	120	0	0	0	0	0	0	564
12:30 PM	0	0	93	16	0	0	0	0	0	0	19	217	0	0	0	64	3	30	125	0	0	0	0	0	0	567
12:45 PM	0	0	103	19	0	0	0	0	0	0	18	211	0	0	0	59	5	48	121	0	0	0	0	0	0	584
Total	0	0	393	78	0	0	0	0	0	0	59	854	0	0	0	227	25	143	479	0	0	0	0	0	0	2258
01:00 PM	0	0	113	17	0	0	0	0	0	0	17	246	0	0	0	62	4	45	120	0	0	0	0	0	0	624
01:15 PM	0	0	116	24	0	0	0	0	0	0	14	219	0	0	0	62	5	37	109	0	0	0	0	0	0	586
01:30 PM	0	0	111	33	0	0	0	0	0	0	15	191	0	0	0	50	4	36	115	0	0	0	0	0	0	555
01:45 PM	0	0	122	30	0	0	0	0	0	0	11	203	0	0	0	66	7	35	142	0	0	0	0	0	0	616
Total	0	0	462	104	0	0	0	0	0	0	57	859	0	0	0	240	20	153	486	0	0	0	0	0	0	2381
Grand Total	0	0	1176	250	2	0	0	0	0	0	187	2734	0	0	0	716	73	470	1433	0	0	0	0	0	0	7041
Apprch %	0	0	82.4	17.5	0.1	0	0	0	0	0	6.4	93.6	0	0	0	26.6	2.7	17.5	53.2	0	0	0	0	0	0	0
Total %	0	0	16.7	3.6	0	0	0	0	0	0	2.7	38.8	0	0	0	10.2	1	6.7	20.4	0	0	0	0	0	0	0
Cars	0	0	1162	243	2	0	0	0	0	0	185	2719	0	0	0	708	72	467	1422	0	0	0	0	0	0	6980
% Cars	0	0	98.8	97.2	100	0	0	0	0	0	98.9	99.5	0	0	0	98.9	98.6	99.4	99.2	0	0	0	0	0	0	99.1
Heavy Vehicles	0	0	14	7	0	0	0	0	0	0	2	15	0	0	0	8	1	3	11	0	0	0	0	0	0	61
% Heavy Vehicles	0	0	1.2	2.8	0	0	0	0	0	0	1.1	0.5	0	0	0	1.1	1.4	0.6	0.8	0	0	0	0	0	0	0.9

	Hammond Pond Parkway From North						Route 9 EB Onramp From East						Hammond Pond Parkway From South						Route 9 EB Offramp From West						U-Turn Ramp From Northwest							
Start Time	Hard Right	Right	Thru	Left	U- Turn	App. Total	Right	Bear Right	Thru	Left	U- Turn	App. Total	Right	Thru	Bear Left	Left	U- Turn	App. Total	Right	Thru	Left	Hard Left	U- Turn	App. Total	Hard Right	Bear Right	Bear Left	Hard Left	U- Turn	App. Total	Int. Total	
Peak Hour Analysis From 11:00 AM to 01:45 PM - Peak 1 of 1																																
Peak Hour for Entire Intersection Begins at 11:00 AM																																
11:00 AM	0	0	58	20	1	79	0	0	0	0	0	0	18	257	0	0	0	275	66	6	34	90	0	196	0	0	0	0	0	0	550	
11:15 AM	0	0	83	12	1	96	0	0	0	0	0	0	22	248	0	0	0	270	59	6	40	115	0	220	0	0	0	0	0	0	586	
11:30 AM	0	0	89	16	0	105	0	0	0	0	0	0	12	248	0	0	0	260	55	9	46	132	0	242	0	0	0	0	0	0	607	
11:45 AM	0	0	91	20	0	111	0	0	0	0	0	0	19	268	0	0	0	287	69	7	54	131	0	261	0	0	0	0	0	0	659	
Total Volume	0	0	321	68	2	391	0	0	0	0	0	0	71	1021	0	0	0	1092	249	28	174	468	0	919	0	0	0	0	0	0	2402	
% App. Total	0	0	82.1	17.4	0.5		0	0	0	0	0		6.5	93.5	0	0	0		27.1	3	18.9	50.9	0		0	0	0	0	0			
PHF	.000	.000	.882	.850	.500	.881	.000	.000	.000	.000	.000	.000	.807	.952	.000	.000	.000	.951	.902	.778	.806	.886	.000	.880	.000	.000	.000	.000	.000	.000	.911	
Cars	0	0	315	63	2	380	0	0	0	0	0	0	71	1012	0	0	0	1083	245	27	173	462	0	907	0	0	0	0	0	0	2370	
% Cars	0	0	98.1	92.6	100	97.2	0	0	0	0	0	0	100	99.1	0	0	0	99.2	98.4	96.4	99.4	98.7	0	98.7	0	0	0	0	0	0	98.7	
Heavy Vehicles	0	0	6	5	0	11	0	0	0	0	0	0	0	9	0	0	0	9	4	1	1	6	0	12	0	0	0	0	0	0	32	
% Heavy Vehicles	0	0	1.9	7.4	0	2.8	0	0	0	0	0	0	0	0.9	0	0	0	0.8	1.6	3.6	0.6	1.3	0	1.3	0	0	0	0	0	0	1.3	

Peak Hour Analysis From 11:00 AM to 01:45 PM - Peak 1 of 1
Peak Hour for Entire Intersection Begins at 11:00 AM



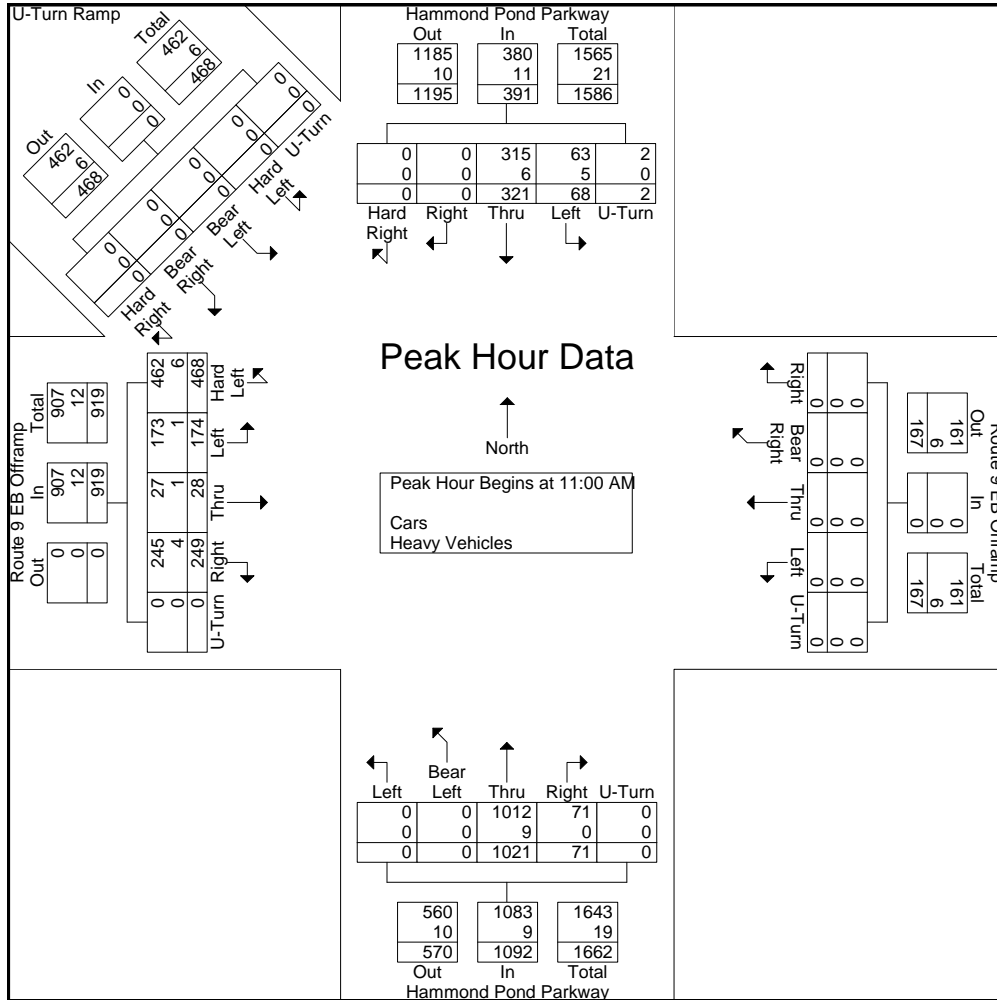
PRECISION
DATA
INDUSTRIES, LLC

46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

N/SNW: Hammond Pond Parkway/ U-Turn Ramp
E/W: Route 9 EB Onramp/Route 9 EB Offramp
City, State: Chestnut Hill, MA
Client: Toole Design/ J. Dempsey

File Name : 165337 EE
Site Code : TBA
Start Date : 11/5/2016
Page No : 1

	Hammond Pond Parkway From North						Route 9 EB Onramp From East						Hammond Pond Parkway From South						Route 9 EB Offramp From West						U-Turn Ramp From Northwest						
Start Time	Hard Right	Right	Thru	Left	U- Turn	App. Total	Right	Bear Right	Thru	Left	U- Turn	App. Total	Right	Thru	Bear Left	Left	U- Turn	App. Total	Right	Thru	Left	Hard Left	U- Turn	App. Total	Hard Right	Bear Right	Bear Left	Hard Left	U- Turn	App. Total	Int. Total
Peak Hour Analysis From 11:00 AM to 01:45 PM - Peak 1 of 1																															
Peak Hour for Entire Intersection Begins at 11:00 AM																															
11:00 AM	0	0	58	20	1	79	0	0	0	0	0	0	18	257	0	0	0	275	66	6	34	90	0	196	0	0	0	0	0	0	550
11:15 AM	0	0	83	12	1	96	0	0	0	0	0	0	22	248	0	0	0	270	59	6	40	115	0	220	0	0	0	0	0	0	586
11:30 AM	0	0	89	16	0	105	0	0	0	0	0	0	12	248	0	0	0	260	55	9	46	132	0	242	0	0	0	0	0	0	607
11:45 AM	0	0	91	20	0	111	0	0	0	0	0	0	19	268	0	0	0	287	69	7	54	131	0	261	0	0	0	0	0	0	659
Total Volume	0	0	321	68	2	391	0	0	0	0	0	0	71	1021	0	0	0	1092	249	28	174	468	0	919	0	0	0	0	0	0	2402
% App. Total	0	0	82.1	17.4	0.5		0	0	0	0	0	0	6.5	93.5	0	0	0		27.1	3	18.9	50.9	0		0	0	0	0	0	0	
PHF	.000	.000	.882	.850	.500	.881	.000	.000	.000	.000	.000	.000	.807	.952	.000	.000	.000	.951	.902	.778	.806	.886	.000	.880	.000	.000	.000	.000	.000	.000	.911
Cars	0	0	315	63	2	380	0	0	0	0	0	0	71	1012	0	0	0	1083	245	27	173	462	0	907	0	0	0	0	0	0	2370
% Cars	0	0	98.1	92.6	100	97.2	0	0	0	0	0	0	100	99.1	0	0	0	99.2	98.4	96.4	99.4	98.7	0	98.7	0	0	0	0	0	0	98.7
Heavy Vehicles	0	0	6	5	0	11	0	0	0	0	0	0	0	9	0	0	0	9	4	1	1	6	0	12	0	0	0	0	0	0	32
% Heavy Vehicles	0	0	1.9	7.4	0	2.8	0	0	0	0	0	0	0	0.9	0	0	0	0.8	1.6	3.6	0.6	1.3	0	1.3	0	0	0	0	0	0	1.3





PRECISION
D A T A
INDUSTRIES, LLC

46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

N/S: Hammond Pond Parkway
E/W: Heath Street
City, State: Chestnut Hill, MA
Client: Toole Design/ J. Dempsey

File Name : 165337 F
Site Code : TBA
Start Date : 11/3/2016
Page No : 1

Groups Printed- Cars - Heavy Vehicles

	Hammond Pond Parkway From North				Heath Street From East				Hammond Pond Parkway From South				Heath Street From West				Int. Total
Start Time	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	
07:00 AM	3	107	1	0	13	5	2	0	4	338	15	0	73	14	10	0	585
07:15 AM	4	121	5	0	23	1	7	0	6	368	5	0	81	34	18	0	673
07:30 AM	2	171	11	0	20	10	7	0	2	405	10	0	68	41	14	0	761
07:45 AM	7	197	17	0	52	9	4	0	4	376	10	0	60	70	12	0	818
Total	16	596	34	0	108	25	20	0	16	1487	40	0	282	159	54	0	2837
08:00 AM	6	174	16	0	41	8	3	0	8	341	21	0	71	21	16	0	726
08:15 AM	11	134	7	0	27	5	4	0	2	342	26	0	82	31	15	0	686
08:30 AM	6	111	6	0	24	9	5	0	7	370	27	0	71	33	15	0	684
08:45 AM	3	135	14	0	23	7	1	0	1	392	19	0	71	27	11	0	704
Total	26	554	43	0	115	29	13	0	18	1445	93	0	295	112	57	0	2800
09:00 AM	3	99	3	0	19	6	3	0	7	321	25	0	85	17	18	0	606
09:15 AM	7	124	5	0	12	6	3	0	3	266	14	0	75	15	13	0	543
09:30 AM	5	95	1	0	18	2	8	0	4	263	22	0	73	14	13	0	518
09:45 AM	7	96	2	0	23	3	12	0	2	240	14	0	78	16	20	0	513
Total	22	414	11	0	72	17	26	0	16	1090	75	0	311	62	64	0	2180
10:00 AM	2	87	8	0	10	3	5	0	4	193	13	0	68	18	17	0	428
10:15 AM	10	89	4	0	12	9	8	0	2	183	12	0	57	7	11	0	404
10:30 AM	4	82	2	0	11	5	7	0	2	174	18	0	49	11	7	0	372
10:45 AM	9	109	7	0	12	4	3	0	0	185	20	0	73	6	14	0	442
Total	25	367	21	0	45	21	23	0	8	735	63	0	247	42	49	0	1646
11:00 AM	7	109	3	0	18	4	8	0	3	148	15	0	54	12	13	0	394
11:15 AM	5	114	5	0	13	2	5	0	3	194	9	0	62	9	17	0	438
11:30 AM	5	111	2	0	10	10	6	0	3	172	23	0	49	11	9	0	411
11:45 AM	11	112	4	0	20	4	4	0	2	201	13	0	55	2	13	0	441
Total	28	446	14	0	61	20	23	0	11	715	60	0	220	34	52	0	1684
12:00 PM	6	107	2	0	17	4	0	0	4	174	16	0	51	10	20	0	411
12:15 PM	10	101	4	0	7	18	4	0	1	176	20	0	71	10	16	0	438
12:30 PM	8	143	10	0	16	7	11	0	3	174	16	0	50	7	15	0	460
12:45 PM	7	104	9	0	15	6	6	0	3	157	15	0	79	12	14	0	427
Total	31	455	25	0	55	35	21	0	11	681	67	0	251	39	65	0	1736
01:00 PM	7	131	3	0	16	5	2	0	2	160	14	0	65	4	10	0	419
01:15 PM	6	118	1	0	12	7	6	0	1	162	9	0	65	9	11	0	407
01:30 PM	4	182	7	0	15	4	4	0	1	182	13	0	65	11	8	0	496
01:45 PM	10	122	6	0	12	6	1	0	1	175	11	0	83	7	16	0	450
Total	27	553	17	0	55	22	13	0	5	679	47	0	278	31	45	0	1772
02:00 PM	12	154	6	0	13	5	4	0	0	172	18	0	78	4	11	0	477
02:15 PM	8	137	4	0	22	8	6	0	1	208	13	0	90	14	13	0	524
02:30 PM	6	162	7	0	25	8	2	0	0	252	21	0	71	7	9	0	570
02:45 PM	7	201	7	0	17	11	6	0	7	192	13	0	98	9	14	0	582
Total	33	654	24	0	77	32	18	0	8	824	65	0	337	34	47	0	2153
03:00 PM	6	229	6	0	24	9	10	0	7	192	17	0	101	5	14	0	620
03:15 PM	10	204	9	0	26	14	2	0	2	203	12	0	102	21	17	0	622
03:30 PM	8	215	6	0	24	5	8	0	1	183	17	0	93	13	9	0	582
03:45 PM	5	205	5	0	40	8	5	0	4	230	21	0	68	12	7	0	610
Total	29	853	26	0	114	36	25	0	14	808	67	0	364	51	47	0	2434
04:00 PM	6	223	12	0	17	11	8	0	1	167	10	0	106	15	22	0	598
04:15 PM	13	261	8	0	27	5	6	0	5	189	13	0	87	15	9	0	638
04:30 PM	8	182	33	0	12	10	4	0	10	162	17	0	68	14	9	0	529
04:45 PM	6	185	27	0	24	14	2	0	3	233	24	0	66	23	14	0	621
Total	33	851	80	0	80	40	20	0	19	751	64	0	327	67	54	0	2386



PRECISION
D A T A
INDUSTRIES, LLC

46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

File Name : 165337 F
Site Code : TBA
Start Date : 11/3/2016
Page No : 2

N/S: Hammond Pond Parkway
E/W: Heath Street
City, State: Chestnut Hill, MA
Client: Toole Design/ J. Dempsey

Groups Printed- Cars - Heavy Vehicles

	Hammond Pond Parkway From North				Heath Street From East				Hammond Pond Parkway From South				Heath Street From West				Int. Total
Start Time	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	
05:00 PM	6	202	28	0	26	12	8	0	1	196	18	0	103	14	11	0	625
05:15 PM	11	228	26	0	30	11	4	0	3	186	17	0	87	18	10	0	631
05:30 PM	6	197	19	0	44	11	4	0	2	197	20	0	77	27	18	0	622
05:45 PM	9	172	26	0	31	12	2	0	3	200	18	0	57	22	11	0	563
Total	32	799	99	0	131	46	18	0	9	779	73	0	324	81	50	0	2441
06:00 PM	7	186	25	0	23	17	3	0	0	230	25	0	89	17	12	0	634
06:15 PM	5	203	10	0	17	8	5	0	1	224	15	0	93	13	11	0	605
06:30 PM	7	177	18	0	21	5	6	0	0	175	10	0	104	15	18	0	556
06:45 PM	4	176	12	0	16	5	7	0	3	173	18	0	116	13	16	0	559
Total	23	742	65	0	77	35	21	0	4	802	68	0	402	58	57	0	2354
Grand Total	325	7284	459	0	990	358	241	0	139	10796	782	0	3638	770	641	0	26423
Apprch %	4	90.3	5.7	0	62.3	22.5	15.2	0	1.2	92.1	6.7	0	72.1	15.3	12.7	0	
Total %	1.2	27.6	1.7	0	3.7	1.4	0.9	0	0.5	40.9	3	0	13.8	2.9	2.4	0	
Cars	315	7168	454	0	975	345	236	0	138	10641	775	0	3572	743	603	0	25965
% Cars	96.9	98.4	98.9	0	98.5	96.4	97.9	0	99.3	98.6	99.1	0	98.2	96.5	94.1	0	98.3
Heavy Vehicles	10	116	5	0	15	13	5	0	1	155	7	0	66	27	38	0	458
% Heavy Vehicles	3.1	1.6	1.1	0	1.5	3.6	2.1	0	0.7	1.4	0.9	0	1.8	3.5	5.9	0	1.7

	Hammond Pond Parkway From North					Heath Street From East					Hammond Pond Parkway From South					Heath Street From West					Int. Total
Start Time	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:30 AM																					
07:30 AM	2	171	11	0	184	20	10	7	0	37	2	405	10	0	417	68	41	14	0	123	761
07:45 AM	7	197	17	0	221	52	9	4	0	65	4	376	10	0	390	60	70	12	0	142	818
08:00 AM	6	174	16	0	196	41	8	3	0	52	8	341	21	0	370	71	21	16	0	108	726
08:15 AM	11	134	7	0	152	27	5	4	0	36	2	342	26	0	370	82	31	15	0	128	686
Total Volume	26	676	51	0	753	140	32	18	0	190	16	1464	67	0	1547	281	163	57	0	501	2991
% App. Total	3.5	89.8	6.8	0		73.7	16.8	9.5	0		1	94.6	4.3	0		56.1	32.5	11.4	0		
PHF	.591	.858	.750	.000	.852	.673	.800	.643	.000	.731	.500	.904	.644	.000	.927	.857	.582	.891	.000	.882	.914
Cars	25	663	51	0	739	139	32	16	0	187	16	1449	65	0	1530	276	159	55	0	490	2946
% Cars	96.2	98.1	100	0	98.1	99.3	100	88.9	0	98.4	100	99.0	97.0	0	98.9	98.2	97.5	96.5	0	97.8	98.5
Heavy Vehicles	1	13	0	0	14	1	0	2	0	3	0	15	2	0	17	5	4	2	0	11	45
% Heavy Vehicles	3.8	1.9	0	0	1.9	0.7	0	11.1	0	1.6	0	1.0	3.0	0	1.1	1.8	2.5	3.5	0	2.2	1.5

Peak Hour Analysis From 10:00 AM to 01:45 PM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 01:00 PM

01:00 PM	7	131	3	0	141	16	5	2	0	23	2	160	14	0	176	65	4	10	0	79	419
01:15 PM	6	118	1	0	125	12	7	6	0	25	1	162	9	0	172	65	9	11	0	85	407
01:30 PM	4	182	7	0	193	15	4	4	0	23	1	182	13	0	196	65	11	8	0	84	496
01:45 PM	10	122	6	0	138	12	6	1	0	19	1	175	11	0	187	83	7	16	0	106	450
Total Volume	27	553	17	0	597	55	22	13	0	90	5	679	47	0	731	278	31	45	0	354	1772
% App. Total	4.5	92.6	2.8	0		61.1	24.4	14.4	0		0.7	92.9	6.4	0		78.5	8.8	12.7	0		
PHF	.675	.760	.607	.000	.773	.859	.786	.542	.000	.900	.625	.933	.839	.000	.932	.837	.705	.703	.000	.835	.893
Cars	27	542	17	0	586	50	21	13	0	84	5	664	47	0	716	273	24	40	0	337	1723
% Cars	100	98.0	100	0	98.2	90.9	95.5	100	0	93.3	100	97.8	100	0	97.9	98.2	77.4	88.9	0	95.2	97.2
Heavy Vehicles	0	11	0	0	11	5	1	0	0	6	0	15	0	0	15	5	7	5	0	17	49
% Heavy Vehicles	0	2.0	0	0	1.8	9.1	4.5	0	0	6.7	0	2.2	0	0	2.1	1.8	22.6	11.1	0	4.8	2.8



PRECISION
D A T A
INDUSTRIES, LLC

46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

N/S: Hammond Pond Parkway
E/W: Heath Street
City, State: Chestnut Hill, MA
Client: Toole Design/ J. Dempsey

File Name : 165337 F
Site Code : TBA
Start Date : 11/3/2016
Page No : 3

	Hammond Pond Parkway From North					Heath Street From East					Hammond Pond Parkway From South					Heath Street From West					
Start Time	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 02:00 PM to 06:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:45 PM																					
04:45 PM	6	185	27	0	218	24	14	2	0	40	3	233	24	0	260	66	23	14	0	103	621
05:00 PM	6	202	28	0	236	26	12	8	0	46	1	196	18	0	215	103	14	11	0	128	625
05:15 PM	11	228	26	0	265	30	11	4	0	45	3	186	17	0	206	87	18	10	0	115	631
05:30 PM	6	197	19	0	222	44	11	4	0	59	2	197	20	0	219	77	27	18	0	122	622
Total Volume	29	812	100	0	941	124	48	18	0	190	9	812	79	0	900	333	82	53	0	468	2499
% App. Total	3.1	86.3	10.6	0		65.3	25.3	9.5	0		1	90.2	8.8	0		71.2	17.5	11.3	0		
PHF	.659	.890	.893	.000	.888	.705	.857	.563	.000	.805	.750	.871	.823	.000	.865	.808	.759	.736	.000	.914	.990
Cars	28	806	100	0	934	124	47	18	0	189	9	800	79	0	888	332	81	50	0	463	2474
% Cars	96.6	99.3	100	0	99.3	100	97.9	100	0	99.5	100	98.5	100	0	98.7	99.7	98.8	94.3	0	98.9	99.0
Heavy Vehicles	1	6	0	0	7	0	1	0	0	1	0	12	0	0	12	1	1	3	0	5	25
% Heavy Vehicles	3.4	0.7	0	0	0.7	0	2.1	0	0	0.5	0	1.5	0	0	1.3	0.3	1.2	5.7	0	1.1	1.0



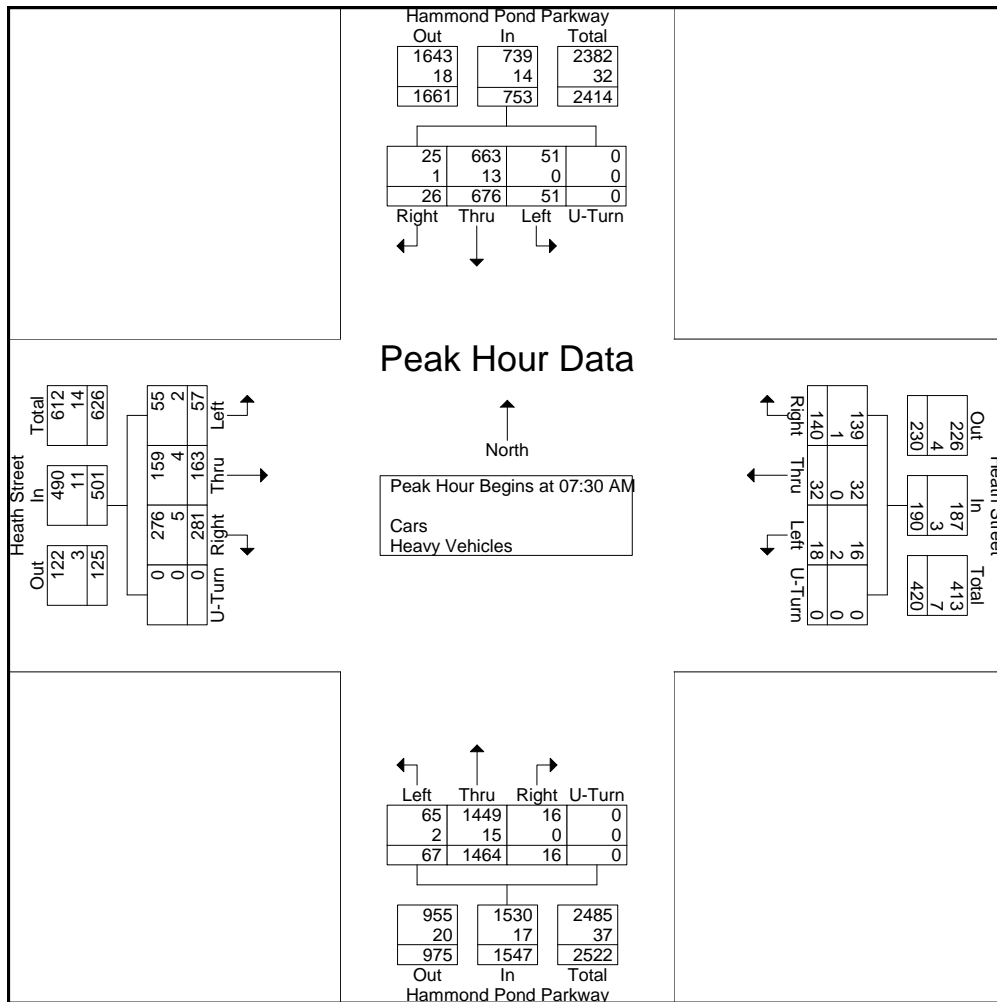
PRECISION
D A T A
INDUSTRIES, LLC

46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

N/S: Hammond Pond Parkway
E/W: Heath Street
City, State: Chestnut Hill, MA
Client: Toole Design/ J. Dempsey

File Name : 165337 F
Site Code : TBA
Start Date : 11/3/2016
Page No : 1

	Hammond Pond Parkway From North					Heath Street From East					Hammond Pond Parkway From South					Heath Street From West					
Start Time	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:30 AM																					
07:30 AM	2	171	11	0	184	20	10	7	0	37	2	405	10	0	417	68	41	14	0	123	761
07:45 AM	7	197	17	0	221	52	9	4	0	65	4	376	10	0	390	60	70	12	0	142	818
08:00 AM	6	174	16	0	196	41	8	3	0	52	8	341	21	0	370	71	21	16	0	108	726
08:15 AM	11	134	7	0	152	27	5	4	0	36	2	342	26	0	370	82	31	15	0	128	686
Total Volume	26	676	51	0	753	140	32	18	0	190	16	1464	67	0	1547	281	163	57	0	501	2991
% App. Total	3.5	89.8	6.8	0		73.7	16.8	9.5	0		1	94.6	4.3	0		56.1	32.5	11.4	0		
PHF	.591	.858	.750	.000	.852	.673	.800	.643	.000	.731	.500	.904	.644	.000	.927	.857	.582	.891	.000	.882	.914
Cars	25	663	51	0	739	139	32	16	0	187	16	1449	65	0	1530	276	159	55	0	490	2946
% Cars	96.2	98.1	100	0	98.1	99.3	100	88.9	0	98.4	100	99.0	97.0	0	98.9	98.2	97.5	96.5	0	97.8	98.5
Heavy Vehicles	1	13	0	0	14	1	0	2	0	3	0	15	2	0	17	5	4	2	0	11	45
% Heavy Vehicles	3.8	1.9	0	0	1.9	0.7	0	11.1	0	1.6	0	1.0	3.0	0	1.1	1.8	2.5	3.5	0	2.2	1.5





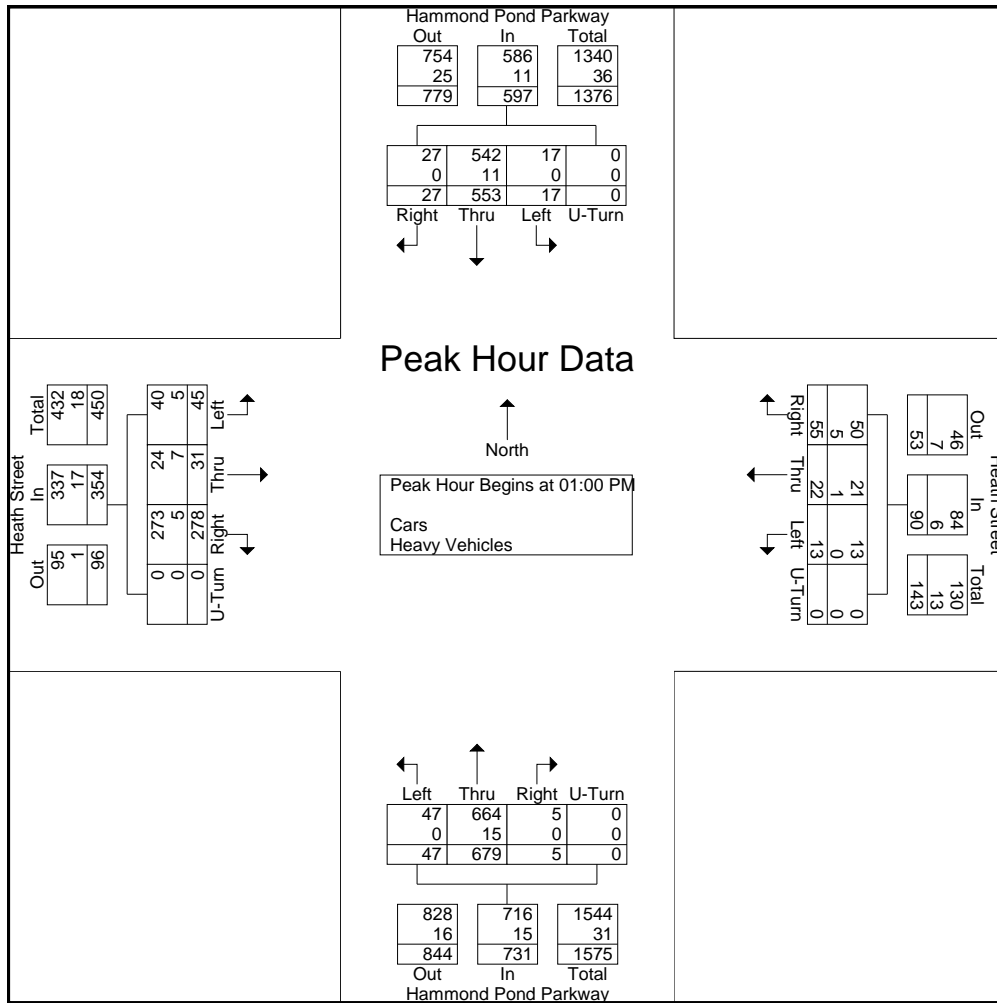
PRECISION
D A T A
INDUSTRIES, LLC

46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

N/S: Hammond Pond Parkway
E/W: Heath Street
City, State: Chestnut Hill, MA
Client: Toole Design/ J. Dempsey

File Name : 165337 F
Site Code : TBA
Start Date : 11/3/2016
Page No : 2

	Hammond Pond Parkway From North					Heath Street From East					Hammond Pond Parkway From South					Heath Street From West					
Start Time	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 10:00 AM to 01:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 01:00 PM																					
01:00 PM	7	131	3	0	141	16	5	2	0	23	2	160	14	0	176	65	4	10	0	79	419
01:15 PM	6	118	1	0	125	12	7	6	0	25	1	162	9	0	172	65	9	11	0	85	407
01:30 PM	4	182	7	0	193	15	4	4	0	23	1	182	13	0	196	65	11	8	0	84	496
01:45 PM	10	122	6	0	138	12	6	1	0	19	1	175	11	0	187	83	7	16	0	106	450
Total Volume	27	553	17	0	597	55	22	13	0	90	5	679	47	0	731	278	31	45	0	354	1772
% App. Total	4.5	92.6	2.8	0		61.1	24.4	14.4	0		0.7	92.9	6.4	0		78.5	8.8	12.7	0		
PHF	.675	.760	.607	.000	.773	.859	.786	.542	.000	.900	.625	.933	.839	.000	.932	.837	.705	.703	.000	.835	.893
Cars	27	542	17	0	586	50	21	13	0	84	5	664	47	0	716	273	24	40	0	337	1723
% Cars	100	98.0	100	0	98.2	90.9	95.5	100	0	93.3	100	97.8	100	0	97.9	98.2	77.4	88.9	0	95.2	97.2
Heavy Vehicles	0	11	0	0	11	5	1	0	0	6	0	15	0	0	15	5	7	5	0	17	49
% Heavy Vehicles	0	2.0	0	0	1.8	9.1	4.5	0	0	6.7	0	2.2	0	0	2.1	1.8	22.6	11.1	0	4.8	2.8





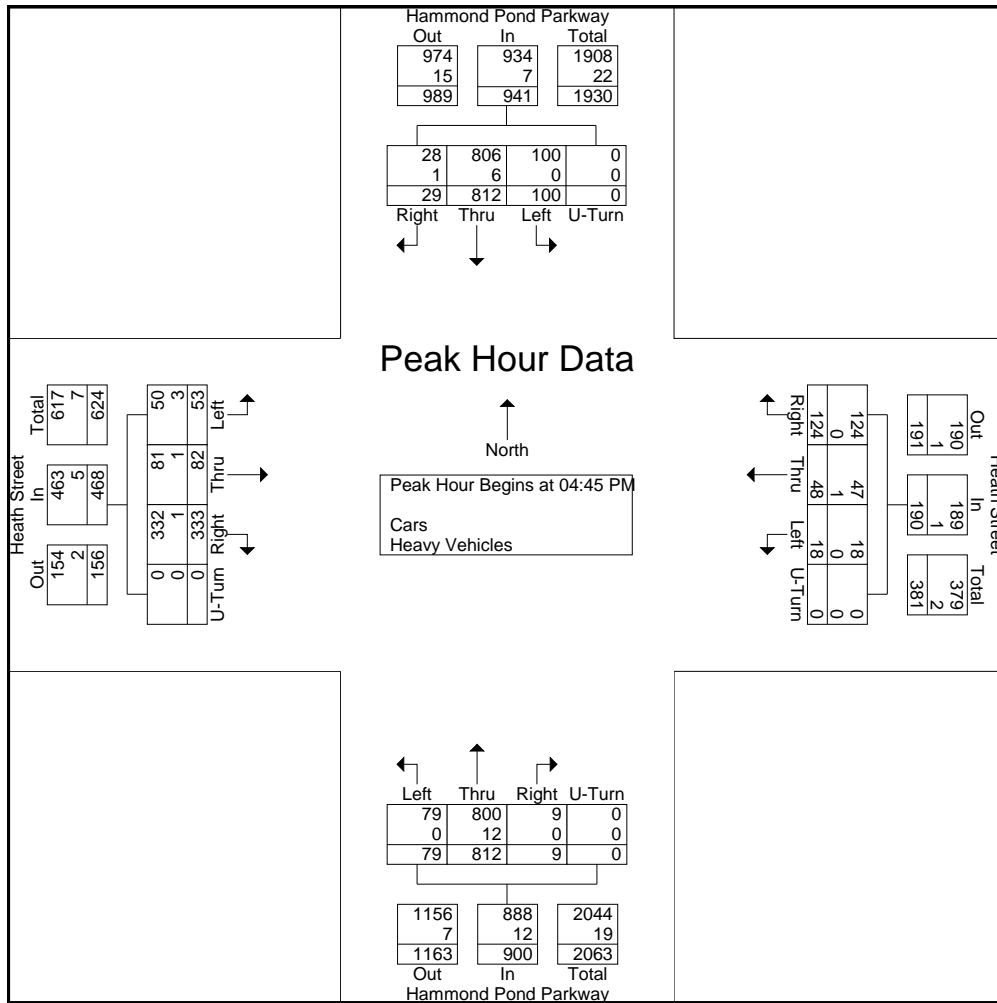
PRECISION
D A T A
INDUSTRIES, LLC

46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

N/S: Hammond Pond Parkway
E/W: Heath Street
City, State: Chestnut Hill, MA
Client: Toole Design/ J. Dempsey

File Name : 165337 F
Site Code : TBA
Start Date : 11/3/2016
Page No : 3

	Hammond Pond Parkway From North					Heath Street From East					Hammond Pond Parkway From South					Heath Street From West					
Start Time	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 02:00 PM to 06:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:45 PM																					
04:45 PM	6	185	27	0	218	24	14	2	0	40	3	233	24	0	260	66	23	14	0	103	621
05:00 PM	6	202	28	0	236	26	12	8	0	46	1	196	18	0	215	103	14	11	0	128	625
05:15 PM	11	228	26	0	265	30	11	4	0	45	3	186	17	0	206	87	18	10	0	115	631
05:30 PM	6	197	19	0	222	44	11	4	0	59	2	197	20	0	219	77	27	18	0	122	622
Total Volume	29	812	100	0	941	124	48	18	0	190	9	812	79	0	900	333	82	53	0	468	2499
% App. Total	3.1	86.3	10.6	0		65.3	25.3	9.5	0		1	90.2	8.8	0		71.2	17.5	11.3	0		
PHF	.659	.890	.893	.000	.888	.705	.857	.563	.000	.805	.750	.871	.823	.000	.865	.808	.759	.736	.000	.914	.990
Cars	28	806	100	0	934	124	47	18	0	189	9	800	79	0	888	332	81	50	0	463	2474
% Cars	96.6	99.3	100	0	99.3	100	97.9	100	0	99.5	100	98.5	100	0	98.7	99.7	98.8	94.3	0	98.9	99.0
Heavy Vehicles	1	6	0	0	7	0	1	0	0	1	0	12	0	0	12	1	1	3	0	5	25
% Heavy Vehicles	3.4	0.7	0	0	0.7	0	2.1	0	0	0.5	0	1.5	0	0	1.3	0.3	1.2	5.7	0	1.1	1.0





PRECISION
D A T A
INDUSTRIES, LLC

46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

N/S: Hammond Pond Parkway
E/W: Heath Street
City, State: Chestnut Hill, MA
Client: Toole Design/ J. Dempsey

File Name : 165337 FF
Site Code : TBA
Start Date : 11/5/2016
Page No : 1

Groups Printed- Cars - Heavy Vehicles

	Hammond Pond Parkway From North				Heath Street From East				Hammond Pond Parkway From South				Heath Street From West				Int. Total
Start Time	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	Right	Thru	Left	U-Turn	
11:00 AM	4	113	1	0	10	4	6	0	2	243	31	0	51	4	11	0	480
11:15 AM	11	127	6	0	12	8	2	0	3	247	19	0	74	6	12	0	527
11:30 AM	2	123	5	1	15	5	4	0	0	233	22	0	69	10	19	0	508
11:45 AM	7	154	4	0	22	4	11	0	1	265	15	0	68	8	16	0	575
Total	24	517	16	1	59	21	23	0	6	988	87	0	262	28	58	0	2090
12:00 PM	11	144	6	0	13	5	7	0	5	213	28	0	77	6	9	0	524
12:15 PM	11	135	2	0	11	1	4	0	3	236	34	0	58	13	13	0	521
12:30 PM	5	147	6	0	13	7	3	0	2	240	23	0	88	6	9	0	549
12:45 PM	6	155	5	0	13	2	6	0	0	236	19	0	97	11	19	0	569
Total	33	581	19	0	50	15	20	0	10	925	104	0	320	36	50	0	2163
01:00 PM	10	162	3	0	9	7	6	0	2	246	23	0	80	9	15	0	572
01:15 PM	5	181	6	0	8	8	4	0	2	230	9	0	104	5	12	0	574
01:30 PM	11	164	4	0	25	10	3	0	9	205	25	0	80	7	10	0	553
01:45 PM	6	175	6	0	20	4	3	0	3	204	24	0	89	5	9	0	548
Total	32	682	19	0	62	29	16	0	16	885	81	0	353	26	46	0	2247
Grand Total	89	1780	54	1	171	65	59	0	32	2798	272	0	935	90	154	0	6500
Apprch %	4.6	92.5	2.8	0.1	58	22	20	0	1	90.2	8.8	0	79.3	7.6	13.1	0	
Total %	1.4	27.4	0.8	0	2.6	1	0.9	0	0.5	43	4.2	0	14.4	1.4	2.4	0	
Cars	88	1754	54	1	168	65	59	0	30	2774	272	0	926	87	152	0	6430
% Cars	98.9	98.5	100	100	98.2	100	100	0	93.8	99.1	100	0	99	96.7	98.7	0	98.9
Heavy Vehicles	1	26	0	0	3	0	0	0	2	24	0	0	9	3	2	0	70
% Heavy Vehicles	1.1	1.5	0	0	1.8	0	0	0	6.2	0.9	0	0	1	3.3	1.3	0	1.1

	Hammond Pond Parkway From North					Heath Street From East					Hammond Pond Parkway From South					Heath Street From West					Int. Total
Start Time	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	
Peak Hour Analysis From 11:00 AM to 01:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 12:45 PM																					
12:45 PM	6	155	5	0	166	13	2	6	0	21	0	236	19	0	255	97	11	19	0	127	569
01:00 PM	10	162	3	0	175	9	7	6	0	22	2	246	23	0	271	80	9	15	0	104	572
01:15 PM	5	181	6	0	192	8	8	4	0	20	2	230	9	0	241	104	5	12	0	121	574
01:30 PM	11	164	4	0	179	25	10	3	0	38	9	205	25	0	239	80	7	10	0	97	553
Total Volume	32	662	18	0	712	55	27	19	0	101	13	917	76	0	1006	361	32	56	0	449	2268
% App. Total	4.5	93	2.5	0		54.5	26.7	18.8	0		1.3	91.2	7.6	0		80.4	7.1	12.5	0		
PHF	.727	.914	.750	.000	.927	.550	.675	.792	.000	.664	.361	.932	.760	.000	.928	.868	.727	.737	.000	.884	.988
Cars	32	656	18	0	706	53	27	19	0	99	11	910	76	0	997	359	31	55	0	445	2247
% Cars	100	99.1	100	0	99.2	96.4	100	100	0	98.0	84.6	99.2	100	0	99.1	99.4	96.9	98.2	0	99.1	99.1
Heavy Vehicles	0	6	0	0	6	2	0	0	0	2	2	7	0	0	9	2	1	1	0	4	21
% Heavy Vehicles	0	0.9	0	0	0.8	3.6	0	0	0	2.0	15.4	0.8	0	0	0.9	0.6	3.1	1.8	0	0.9	0.9



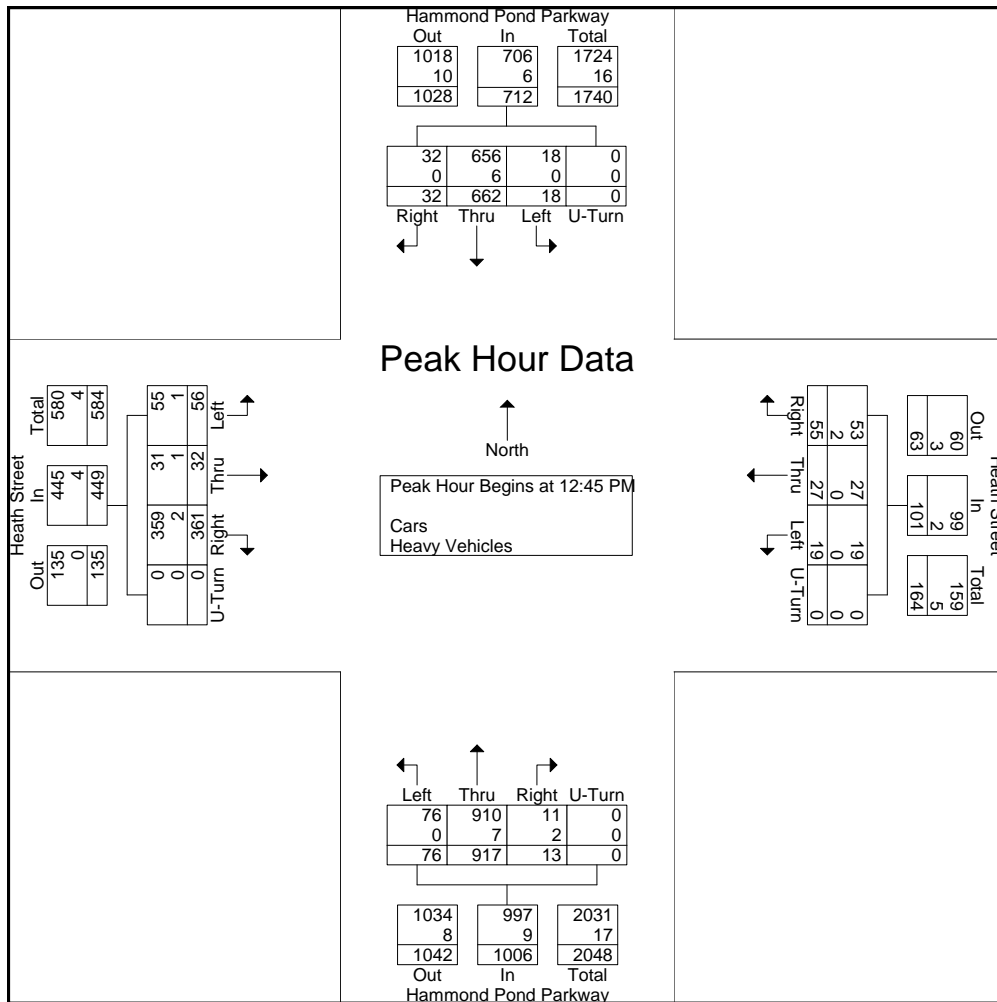
PRECISION
D A T A
INDUSTRIES, LLC

46 Morton Street, Framingham, MA 01702
Office: 508-875-0100 Fax: 508-875-0118
Email: datarequests@pdillc.com

N/S: Hammond Pond Parkway
E/W: Heath Street
City, State: Chestnut Hill, MA
Client: Toole Design/ J. Dempsey

File Name : 165337 FF
Site Code : TBA
Start Date : 11/5/2016
Page No : 1

	Hammond Pond Parkway From North					Heath Street From East					Hammond Pond Parkway From South					Heath Street From West					
Start Time	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Right	Thru	Left	U-Turn	App. Total	Int. Total
Peak Hour Analysis From 11:00 AM to 01:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 12:45 PM																					
12:45 PM	6	155	5	0	166	13	2	6	0	21	0	236	19	0	255	97	11	19	0	127	569
01:00 PM	10	162	3	0	175	9	7	6	0	22	2	246	23	0	271	80	9	15	0	104	572
01:15 PM	5	181	6	0	192	8	8	4	0	20	2	230	9	0	241	104	5	12	0	121	574
01:30 PM	11	164	4	0	179	25	10	3	0	38	9	205	25	0	239	80	7	10	0	97	553
Total Volume	32	662	18	0	712	55	27	19	0	101	13	917	76	0	1006	361	32	56	0	449	2268
% App. Total	4.5	93	2.5	0		54.5	26.7	18.8	0		1.3	91.2	7.6	0		80.4	7.1	12.5	0		
PHF	.727	.914	.750	.000	.927	.550	.675	.792	.000	.664	.361	.932	.760	.000	.928	.868	.727	.737	.000	.884	.988
Cars	32	656	18	0	706	53	27	19	0	99	11	910	76	0	997	359	31	55	0	445	2247
% Cars	100	99.1	100	0	99.2	96.4	100	100	0	98.0	84.6	99.2	100	0	99.1	99.4	96.9	98.2	0	99.1	99.1
Heavy Vehicles	0	6	0	0	6	2	0	0	0	2	2	7	0	0	9	2	1	1	0	4	21
% Heavy Vehicles	0	0.9	0	0	0.8	3.6	0	0	0	2.0	15.4	0.8	0	0	0.9	0.6	3.1	1.8	0	0.9	0.9



Appendix B: Motor Vehicle Crash Data

INTERSECTION CRASH RATE WORKSHEET

CITY/TOWN : Newton COUNT DATE : Apr 2019

DISTRICT : 6 UNSIGNALIZED : ☐ SIGNALIZED : ☒

~ INTERSECTION DATA ~

MAJOR STREET : Beacon Street

MINOR STREET(S) : Hammond Pond Parkway/Hobart Road

INTERSECTION
DIAGRAM



PEAK HOUR VOLUMES

APPROACH :	1	2	3	4	5	Total Peak Hourly Approach Volume
DIRECTION :	EB	WB	NB	SB		
PEAK HOURLY VOLUMES (AM/PM) :	654	597	887	414		2,552

" K " FACTOR :

0.084

INTERSECTION ADT (V) = TOTAL DAILY
APPROACH VOLUME :

30,381

TOTAL # OF CRASHES :

22

OF
YEARS :

5

AVERAGE # OF
CRASHES PER YEAR (A) :

4.40

CRASH RATE CALCULATION :

0.40

RATE = $\frac{(A * 1,000,000)}{(V * 365)}$

Comments : _____

Project Title & Date: _____

INTERSECTION CRASH RATE WORKSHEET

CITY/TOWN : Newton COUNT DATE : Oct 2017

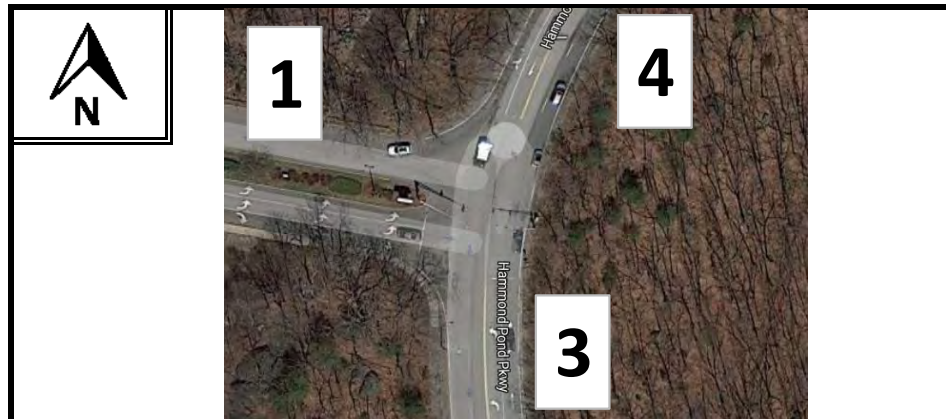
DISTRICT : 6 UNSIGNALIZED : ☐ SIGNALIZED : ☒

~ INTERSECTION DATA ~

MAJOR STREET : Hammond Pond Parkway

MINOR STREET(S) : The Shops at Chestnut Hill driveway

INTERSECTION
DIAGRAM



PEAK HOUR VOLUMES

APPROACH :	1	2	3	4	5	Total Peak Hourly Approach Volume
DIRECTION :	EB	WB	NB	SB		
PEAK HOURLY VOLUMES (AM/PM) :	209	0	856	837		1,902

" K " FACTOR :

0.084

INTERSECTION ADT (V) = TOTAL DAILY
APPROACH VOLUME :

22,643

TOTAL # OF CRASHES :

7

OF
YEARS :

5

AVERAGE # OF
CRASHES PER YEAR (A) :

1.40

CRASH RATE CALCULATION :

0.17

RATE = $\frac{(A * 1,000,000)}{(V * 365)}$

Comments : _____

Project Title & Date: _____

INTERSECTION CRASH RATE WORKSHEET

CITY/TOWN : Newton COUNT DATE : Sep 2017

DISTRICT : 6 UNSIGNALIZED : ☐ SIGNALIZED : ☒

~ INTERSECTION DATA ~

MAJOR STREET : Hammond Pond Parkway

MINOR STREET(S) : The Street driveway

INTERSECTION
DIAGRAM



PEAK HOUR VOLUMES

APPROACH :	1	2	3	4	5	Total Peak Hourly Approach Volume
DIRECTION :	EB	WB	NB	SB		
PEAK HOURLY VOLUMES (AM/PM) :	0	213	813	794		1,820

" K " FACTOR :

0.084

INTERSECTION ADT (V) = TOTAL DAILY APPROACH VOLUME :

21,667

TOTAL # OF CRASHES :

17

OF YEARS :

5

AVERAGE # OF CRASHES PER YEAR (A) :

3.40

CRASH RATE CALCULATION :

0.43

$$\text{RATE} = \frac{(A * 1,000,000)}{(V * 365)}$$

Comments : _____

Project Title & Date: _____

HAMMOND POND PARKWAY AT BEACON STREET

Crash Number	Crash Date	Crash Time	City/Town	Crash Severity	Crash Type	Road Condition	Ambient Light	Roadway	Near Intersection Roadway	Landmark	Police Agency
3479167	6/12/2013	1:44 PM	NEWTON	Non-fatal injury	Rear-end	Dry	Daylight	BEACON STREET / HAMMOND POND PARKWAY /			State police
3523228	7/5/2013	2:47 PM	NEWTON	Property damage only (none injured)	Angle	Dry	Daylight	HAMMOND POND PARKWAY Rte UNKNOWN	BEACON STREET		State police
3556764	8/1/2013	6:10 PM	NEWTON	Non-fatal injury	Rear-end	Dry	Daylight	BEACON ST / HOBART RD			Local police
3795727	4/30/2014	12:18 PM	NEWTON	Property damage only (none injured)	Rear-end	Dry	Daylight	BEACON ST / HAMMOND POND PKWY			Local police
3802810	5/1/2014	9:27 AM	NEWTON	Property damage only (none injured)	Angle	Wet	Daylight	BEACON ST / HAMMOND POND PKWY			Local police
3822669	5/11/2014	9:17 PM	NEWTON	Property damage only (none injured)	Single vehicle crash	Dry	Dark - lighted roadway	BEACON ST / HAMMOND POND PKWY / HOBART RD			Local police
3972045	11/6/2014	6:35 PM	NEWTON	Property damage only (none injured)	Single vehicle crash	Wet	Dark - roadway not lighted	BEACON STREET / HAMMOND POND PARKWAY /			State police
3993331	1/1/2015	2:17 PM	NEWTON	Property damage only (none injured)	Rear-end	Dry	Daylight	BEACON ST / HAMMOND POND PKWY			Local police
4011784	2/19/2015	2:39 AM	NEWTON	Property damage only (none injured)	Single vehicle crash	Snow	Dark - lighted roadway	BEACON ST / HOBART RD			Local police
4046696	5/30/2015	11:30 PM	NEWTON	Property damage only (none injured)	Single vehicle crash	Dry	Dark - lighted roadway	HAMMOND POND PARKWAY Rte UNKNOWN	BEACON STREET		State police
4060302	6/22/2015	2:29 PM	NEWTON	Property damage only (none injured)	Rear-end	Dry	Daylight	HAMMOND POND PARKWAY Rte UNKNOWN	BEACON STREET		State police
4159424	2/24/2016	10:35 PM	NEWTON	Property damage only (none injured)	Angle	Wet	Dark - lighted roadway	BEACON ST / HAMMOND POND PKWY / HOBART ROAD			Local police
4181419	4/6/2016	6:40 AM	NEWTON	Property damage only (none injured)	Rear-end	Dry	Daylight	BEACON ST / HAMMOND POND PKWY			Local police
4175473	4/10/2016	10:40 PM	NEWTON	Non-fatal injury	Rear-end	Dry	Dark - lighted roadway	BEACON ST / HAMMOND POND PKWY			Local police
4257959	9/20/2016	10:55 PM	NEWTON	Property damage only (none injured)	Sideswipe, same direction	Dry	Dark - lighted roadway	BEACON ST / HOBART RD			Local police
4341981	2/24/2017	3:45 PM	NEWTON	Non-fatal injury	Single vehicle crash	Wet	Dark - roadway not lighted	HAMMOND POND PARKWAY Rte UNKNOWN N	BEACON STREET		State police
4409197	3/22/2017	3:19 PM	NEWTON	Property damage only (none injured)	Rear-end	Dry	Daylight	BEACON ST / HAMMOND POND PKWY			Local police
4408507	3/30/2017	9:11 AM	NEWTON	Property damage only (none injured)	Rear-end	Dry	Daylight	BEACON ST / HAMMOND POND PKWY			Local police
4409753	7/27/2017	8:31 AM	NEWTON	Non-fatal injury	Rear-end	Dry	Daylight	HAMMOND POND PARKWAY Rte UNKNOWN	BEACON STREET		State police
4436115	9/29/2017	2:45 PM	NEWTON	Property damage only (none injured)	Angle	Dry	Daylight	BEACON ST / HOBART RD			Local police
4460025	11/21/2017	12:15 PM	NEWTON	Non-fatal injury	Rear-end	Dry	Daylight	HAMMOND POND PARKWAY Rte UNKNOWN	BEACON STREET		State police
4473163	12/11/2017	5:16 PM	NEWTON	Property damage only (none injured)	Rear-end	Dry	Dark - unknown roadway lighting	BEACON STREET / HAMMOND POND PARKWAY / HOBART ROAD			Local police












HAMMOND POND PARKWAY AT CHESTNUT HILL MALL DRIVEWAY

Crash Number	Crash Date	Crash Time	City/Town	Crash Severity	Crash Type	Road condition	Ambient light	Roadway	Near Intersection Roadway	Landmark	Police Agency
3718383	1/17/2014	5:40 PM	NEWTON	Property damage only (none injured)	Angle	Dry	Dark - lighted roadway	HAMMOND POND PARKWAY		ENTR TO CHESTNUT HILL SHOPP CNTR	State police
3748555	2/17/2014	1:44 PM	NEWTON	Property damage only (none injured)	Rear-end	Ice	Daylight	HAMMOND POND PARKWAY		MALL AT CHESTNUT HILL ACCESS RD	Local police
3899694	7/31/2014	8:28 PM	NEWTON	Non-fatal injury	Single vehicle crash	Dry	Dark - lighted roadway	HAMMOND POND PARKWAY Rte	BOYLSTON STREET	PRIOR TO CHESTNUT HILL	State police
4124119	12/16/2015	7:55 PM	NEWTON	Property damage only (none injured)	Angle	Dry	Dark - lighted roadway	HAMMOND POND PARKWAY		CHESTNUT HILL MALL LOWER ENTRANC	State police
4220913	7/2/2016	10:58 AM	NEWTON	Non-fatal injury	Rear-end	Dry	Daylight	HAMMOND POND PARKWAY		DWY TO LOWER CHESTNUT HILL MALL	State police
4226496	7/27/2016	2:15 PM	NEWTON	Property damage only (none injured)	Angle	Dry	Daylight	HAMMOND POND PARKWAY		DWY TO LOWER CHESTNUT HILL MALL	State police
4369118	5/19/2017	11:57 AM	NEWTON	Property damage only (none injured)	Rear-end	Dry	Daylight	HAMMOND POND PARKWAY		ENTRANCE TO THE TOWERS	State police

HAMMOND POND PARKWAY AT THE STREET DRIVEWAY

Crash Number	Crash Date	Crash Time	City/Town	Crash Severity	Crash Type	Road condition	Ambient light	Roadway	Near Intersection Roadway	Landmark	Police Agency
3587444	9/4/2013	9:41 AM	NEWTON	Property damage only (none injured)	Angle	Dry	Daylight	HAMMOND POND PARKWAY	Rte 9	"THE STREET" E	State police
3772674	3/7/2014	7:42 AM	NEWTON	Property damage only (none injured)	Rear-end	Dry	Daylight	HAMMOND POND PARKWAY Rte UNKNOW N	BOYLSTON STREET	ENTRANCE TO THE STREET	State police
4017252	2/1/2015	10:35 AM	NEWTON	Property damage only (none injured)	Rear-end	Dry	Daylight	HAMMOND POND PARKWAY	BOYLSTON STREET	MALL ENTRANCE	State police
4017979	2/26/2015	11:23 AM	NEWTON	Property damage only (none injured)	Angle	Wet	Daylight	HAMMOND POND PARKWAY		THE STREET	State police
4020770	3/6/2015	6:25 PM	NEWTON	Property damage only (none injured)	Angle	Dry	Dark - lighted roadway	HAMMOND POND PARKWAY		CHESTNUT HILL MALL - THE STREET	State police
4020772	3/13/2015	1:25 PM	NEWTON	Property damage only (none injured)	Angle	Dry	Daylight	HAMMOND POND PARKWAY Rte UNKNOW	BOYLSTON STREET	@ THE STREET	State police
4044468	4/25/2015	12:55 PM	NEWTON	Property damage only (none injured)	Angle	Dry	Daylight	HAMMOND POND PARKWAY		THE STREET PARKING LOT EXIT	State police
4049219	5/29/2015	6:25 PM	NEWTON	Property damage only (none injured)	Angle	Dry	Daylight	HAMMOND POND PARKWAY		ENTRANCE TO THE STREET	State police
4063793	7/8/2015	3:53 PM	NEWTON	Property damage only (none injured)	Angle	Dry	Daylight	HAMMOND POND PARKWAY	BOYLSTON STREET	ENTRANCE TO THE STREET	State police
4072453	7/28/2015	5:42 PM	NEWTON	Property damage only (none injured)	Rear-end	Dry	Daylight	EXIT FROM 55 BOYLSTON ST PARKING LOT / HAMMOND POND PARKWAY			Local police
4076165	8/12/2015	2:15 PM	NEWTON	Property damage only (none injured)	Angle	Dry	Daylight	HAMMOND POND PARKWAY		AT THE STREET ENTRY/EXIT	State police
4107364	10/18/2015	7:30 PM	NEWTON	Property damage only (none injured)	Angle	Dry	Daylight	HAMMOND POND PARKWAY	BOYLSTON STREET	EXIT RAMP FROM THE STREET PKGLOT	State police
4119009	11/10/2015	9:05 PM	NEWTON	Property damage only (none injured)	Angle	Dry	Dark - lighted roadway	HAMMOND POND PARKWAY		ENTRANCE/EXIT TO THE STREET	State police
4149844	1/21/2016	1:31 PM	NEWTON	Property damage only (none injured)	Angle	Dry	Daylight	HAMMOND POND PARKWAY	BOYLSTON STREET	ENTRANCE TO THE STREET MALL	State police
4180067	3/26/2016	1:18 PM	NEWTON	Property damage only (none injured)	Angle	Dry	Daylight	HAMMOND POND PARKWAY / THE STREET MALL		THE STREET MALL ENTRANCE	State police
4286178	11/13/2016	9:53 AM	NEWTON	Property damage only (none injured)	Rear-end	Dry	Daylight	HAMMOND POND PARKWAY		AT THE STREET SHOPPING PLAZA ENT	State police
4446801	10/6/2017	12:45 PM	NEWTON	Non-fatal injury	Single vehicle crash	Dry	Daylight	HAMMOND POND PARKWAY		ENTRANCE TO THE STREET	State police

Appendix C: Traffic Operations Analysis Worksheets

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	469	174	85	437	0	472	0	698	14	260	38
Future Volume (vph)	0	469	174	85	437	0	472	0	698	14	260	38
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	10	11	12	12	11	12	12	11	11	12
Storage Length (ft)	0		200	150		0	0		160	0		125
Storage Lanes	0		1	1		0	2		1	0		1
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	0	1845	1507	1745	1845	0	3385	0	1615	0	3404	1538
Flt Permitted				0.950			0.950				0.995	
Satd. Flow (perm)	0	1845	1486	1744	1845	0	3385	0	1615	0	3404	1538
Right Turn on Red			Yes			Yes			Yes		Yes	
Satd. Flow (RTOR)			133						726			161
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		419			534			1685			324	
Travel Time (s)		9.5			12.1			38.3			7.4	
Confl. Peds. (#/hr)			1	1								
Confl. Bikes (#/hr)			1									
Peak Hour Factor	0.92	0.86	0.86	0.92	0.89	0.92	0.93	0.25	0.85	0.44	0.86	0.74
Heavy Vehicles (%)	0%	3%	0%	0%	3%	0%	0%	0%	0%	21%	0%	5%
Adj. Flow (vph)	0	545	202	92	491	0	508	0	821	32	302	51
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	545	202	92	491	0	508	0	821	0	334	51
Turn Type		NA	Perm	Prot	NA		Prot		Free	Split	NA	Free
Protected Phases		2		1	1 2		4			3	3	
Permitted Phases			2						Free			Free
Detector Phase		2	2	1	1 2		4			3	3	
Switch Phase												
Minimum Initial (s)		10.0	10.0	8.0			8.0			8.0	8.0	
Minimum Split (s)		15.0	15.0	13.0			23.0			13.0	13.0	
Total Split (s)		30.0	30.0	35.0			30.0			20.0	20.0	
Total Split (%)		26.1%	26.1%	30.4%			26.1%			17.4%	17.4%	
Yellow Time (s)		4.0	4.0	4.0			4.0			4.0	4.0	
All-Red Time (s)		1.0	1.0	1.0			1.0			1.0	1.0	
Lost Time Adjust (s)		0.0	0.0	0.0			0.0			0.0	0.0	
Total Lost Time (s)		5.0	5.0	5.0			5.0			5.0	5.0	
Lead/Lag		Lag	Lag	Lead			Lag			Lead	Lead	
Lead-Lag Optimize?		Yes	Yes	Yes			Yes			Yes	Yes	
Recall Mode		Max	Max	Max			Max			Max	Max	
Act Effect Green (s)		25.0	25.0	30.0	60.0		25.0		115.0		15.0	115.0
Actuated g/C Ratio		0.22	0.22	0.26	0.52		0.22		1.00		0.13	1.00
v/c Ratio		1.36	0.47	0.20	0.51		0.69		0.51		0.75	0.03
Control Delay		213.1	18.3	34.7	20.3		47.1		1.1		59.8	0.1
Queue Delay		0.0	0.0	0.0	0.0		0.0		0.0		0.0	0.0
Total Delay		213.1	18.3	34.7	20.3		47.1		1.1		59.8	0.1
LOS		F	B	C	C		D		A		E	A
Approach Delay		160.4			22.6			18.7			51.9	
Approach LOS		F			C			B			D	
Queue Length 50th (ft)		~531	42	53	228		179		0		127	0
Queue Length 95th (ft)		#699	104	98	317		239		0		170	0
Internal Link Dist (ft)		339			454			1605			244	
Turn Bay Length (ft)			200	150					160			125
Base Capacity (vph)		401	427	455	962		735		1615		444	1538
Starvation Cap Reductn		0	0	0	0		0		0		0	0
Spillback Cap Reductn		0	0	0	0		0		0		0	0
Storage Cap Reductn		0	0	0	0		0		0		0	0
Reduced v/c Ratio		1.36	0.47	0.20	0.51		0.69		0.51		0.75	0.03

Intersection Summary

Area Type: Other

Cycle Length: 115

Actuated Cycle Length: 115

Natural Cycle: 80

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 1.36

Intersection Signal Delay: 58.4

Intersection Capacity Utilization 68.2%

Analysis Period (min) 15

Intersection LOS: E

ICU Level of Service C

- Volume exceeds capacity, queue is theoretically infinite.












Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 3: Hammond Pond Parkway/Hobart Road & Beacon Street



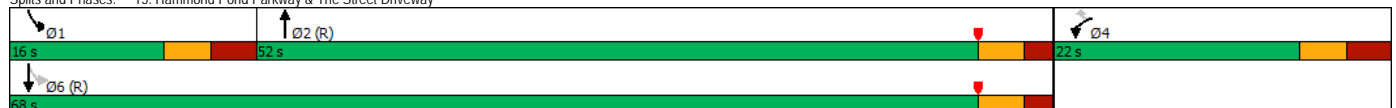
						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	17	16	1310	133	37	498
Future Volume (vph)	17	16	1310	133	37	498
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	11	11	11
Storage Length (ft)	0	0		0	150	
Storage Lanes	1	1		0	1	
Taper Length (ft)	25				25	
Satd. Flow (prot)	1728	1561	3367	0	1728	3455
Flt Permitted	0.950				0.115	
Satd. Flow (perm)	1728	1561	3367	0	209	3455
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		18	21			
Link Speed (mph)	30		30			30
Link Distance (ft)	146		241			402
Travel Time (s)	3.3		5.5			9.1
Peak Hour Factor	0.89	0.89	0.94	0.82	0.93	0.90
Heavy Vehicles (%)	1%	0%	2%	2%	1%	1%
Adj. Flow (vph)	19	18	1394	162	40	553
Shared Lane Traffic (%)						
Lane Group Flow (vph)	19	18	1556	0	40	553
Turn Type	Prot	Perm	NA		pm+pt	NA
Protected Phases	4		2		1	6
Permitted Phases		4			6	
Detector Phase	4	4	2		1	6
Switch Phase						
Minimum Initial (s)	6.0	6.0	10.0		6.0	10.0
Minimum Split (s)	16.0	16.0	19.0		16.0	15.0
Total Split (s)	22.0	22.0	52.0		16.0	68.0
Total Split (%)	24.4%	24.4%	57.8%		17.8%	75.6%
Yellow Time (s)	3.0	3.0	3.0		3.0	3.0
All-Red Time (s)	3.0	3.0	2.0		3.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	6.0	6.0	5.0		6.0	5.0
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?			Yes		Yes	
Recall Mode	None	None	C-Min		None	C-Min
Act Effect Green (s)	6.3	6.3	72.3		76.5	79.5
Actuated g/C Ratio	0.07	0.07	0.80		0.85	0.88
v/c Ratio	0.16	0.14	0.57		0.14	0.18
Control Delay	42.3	20.1	2.6		2.9	1.6
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	42.3	20.1	2.6		2.9	1.6
LOS	D	C	A		A	A
Approach Delay	31.5		2.6			1.7
Approach LOS	C		A			A
Queue Length 50th (ft)	10	0	126		3	26
Queue Length 95th (ft)	31	20	128		9	40
Internal Link Dist (ft)	66		161			322
Turn Bay Length (ft)					150	
Base Capacity (vph)	307	292	2710		346	3053
Starvation Cap Reductn	0	0	0		0	0
Spillback Cap Reductn	0	0	0		0	121
Storage Cap Reductn	0	0	0		0	0
Reduced v/c Ratio	0.06	0.06	0.57		0.12	0.19












Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 5 (6%), Referenced to phase 2:NBT and 6:SBTL, Start of Yellow
Natural Cycle: 70
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.57
Intersection Signal Delay: 2.8
Intersection Capacity Utilization 54.6%
Analysis Period (min) 15

Intersection LOS: A
ICU Level of Service A

Splits and Phases: 15: Hammond Pond Parkway & The Street Driveway



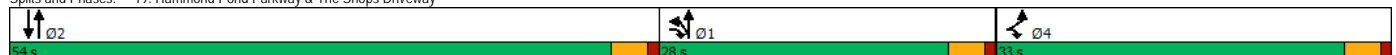
						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	41	13	24	1135	492	58
Future Volume (vph)	41	13	24	1135	492	58
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	11	11	11
Storage Length (ft)	0	0	115			0
Storage Lanes	2	1	1			0
Taper Length (ft)	25		25			
Satd. Flow (prot)	3385	1546	1586	1818	3404	0
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	3385	1546	1586	1818	3404	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		15			14	
Link Speed (mph)	30			30	30	
Link Distance (ft)	411			1024	427	
Travel Time (s)	9.3			23.3	9.7	
Peak Hour Factor	0.79	0.85	0.84	0.84	0.90	0.87
Heavy Vehicles (%)	0%	1%	10%	1%	1%	0%
Adj. Flow (vph)	52	15	29	1351	547	67
Shared Lane Traffic (%)						
Lane Group Flow (vph)	52	15	29	1351	614	0
Turn Type	Prot	pt+ov	Prot	NA	NA	
Protected Phases	4	4 1	1	1 2	2	
Permitted Phases						
Detector Phase	4	4 1	1	1 2	2	
Switch Phase						
Minimum Initial (s)	14.0		14.0		16.0	
Minimum Split (s)	18.0		18.0		20.0	
Total Split (s)	33.0		28.0		54.0	
Total Split (%)	28.7%		24.3%		47.0%	
Yellow Time (s)	3.0		3.0		3.0	
All-Red Time (s)	1.0		1.0		1.0	
Lost Time Adjust (s)	0.0		0.0		0.0	
Total Lost Time (s)	4.0		4.0		4.0	
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?			Yes		Yes	
Recall Mode	None		None		Min	
Act Effect Green (s)	14.1	42.3	24.2	79.4	50.3	
Actuated g/C Ratio	0.15	0.44	0.25	0.82	0.52	
v/c Ratio	0.11	0.02	0.07	0.90	0.34	
Control Delay	38.3	8.0	30.2	19.4	14.6	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	38.3	8.0	30.2	19.4	14.6	
LOS	D	A	C	B	B	
Approach Delay	31.5			19.6	14.6	
Approach LOS	C			B	B	
Queue Length 50th (ft)	14	0	14	585	117	
Queue Length 95th (ft)	28	11	35	#833	157	
Internal Link Dist (ft)	331			944	347	
Turn Bay Length (ft)			115			
Base Capacity (vph)	1024	925	397	1498	1783	
Starvation Cap Reductn	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	
Reduced v/c Ratio	0.05	0.02	0.07	0.90	0.34	

Intersection Summary

Area Type: Other
 Cycle Length: 115
 Actuated Cycle Length: 96.4
 Natural Cycle: 90
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.90
 Intersection Signal Delay: 18.5
 Intersection Capacity Utilization 78.1%
 Analysis Period (min) 15
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Intersection LOS: B
 ICU Level of Service D











Splits and Phases: 19: Hammond Pond Parkway & The Shops Driveway























HCM Unsignalized Intersection Capacity Analysis

11: Hammond Pond Parkway & #300 Driveway

10/29/2020

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	20	31	13	1166	512	16
Future Volume (Veh/h)	20	31	13	1166	512	16
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.33	0.50	0.50	0.86	0.92	0.62
Hourly flow rate (vph)	61	62	26	1356	557	26
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh						
Upstream signal (ft)				427		
pX, platoon unblocked						
vC, conflicting volume	1300	292	583			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1300	292	583			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	60	91	97			
cM capacity (veh/h)	151	711	1001			
Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	61	62	478	904	371	212
Volume Left	61	0	26	0	0	0
Volume Right	0	62	0	0	0	26
cSH	151	711	1001	1700	1700	1700
Volume to Capacity	0.40	0.09	0.03	0.53	0.22	0.12
Queue Length 95th (ft)	44	7	2	0	0	0
Control Delay (s)	43.9	10.5	0.8	0.0	0.0	0.0
Lane LOS	E	B	A			
Approach Delay (s)	27.1		0.3		0.0	
Approach LOS	D					
Intersection Summary						
Average Delay			1.8			
Intersection Capacity Utilization			51.4%	ICU Level of Service		A
Analysis Period (min)			15			












												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	381	273	155	442	0	488	0	399	7	354	53
Future Volume (vph)	0	381	273	155	442	0	488	0	399	7	354	53
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	10	11	12	12	11	12	12	12	11	12
Storage Length (ft)	0		200	150		0	0		160	0		125
Storage Lanes	0		1	1		0	2		1	0		1
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	0	1845	1507	1745	1845	0	3385	0	1615	0	3456	1538
Flt Permitted				0.950			0.950				0.998	
Satd. Flow (perm)	0	1845	1464	1744	1845	0	3385	0	1615	0	3456	1538
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			258						401			161
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		419			534			1685			324	
Travel Time (s)		9.5			12.1			38.3			7.4	
Confl. Peds. (#/hr)			1	1								
Confl. Bikes (#/hr)			15									
Peak Hour Factor	0.92	0.86	0.86	0.92	0.89	0.92	0.93	0.25	0.85	0.44	0.86	0.74
Heavy Vehicles (%)	0%	3%	0%	0%	3%	0%	0%	0%	0%	21%	0%	5%
Adj. Flow (vph)	0	443	317	168	497	0	525	0	469	16	412	72
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	443	317	168	497	0	525	0	469	0	428	72
Turn Type		NA	Perm	Prot	NA		Prot		Free	Split	NA	Free
Protected Phases		2		1	1 2		4			3	3	
Permitted Phases			2						Free			Free
Detector Phase		2	2	1	1 2		4			3	3	
Switch Phase												
Minimum Initial (s)		10.0	10.0	1.0			8.0			8.0	8.0	
Minimum Split (s)		15.0	15.0	13.0			20.0			13.0	13.0	
Total Split (s)		30.0	30.0	35.0			30.0			20.0	20.0	
Total Split (%)		26.1%	26.1%	30.4%			26.1%			17.4%	17.4%	
Yellow Time (s)		4.0	4.0	4.0			4.0			4.0	4.0	
All-Red Time (s)		1.0	1.0	1.0			1.0			1.0	1.0	
Lost Time Adjust (s)		0.0	0.0	0.0			0.0			0.0	0.0	
Total Lost Time (s)		5.0	5.0	5.0			5.0			5.0	5.0	
Lead/Lag		Lag	Lag	Lead			Lag			Lead	Lead	
Lead-Lag Optimize?		Yes	Yes	Yes			Yes			Yes	Yes	
Recall Mode		Max	Max	Max			Max			Max	Max	
Act Effect Green (s)		25.0	25.0	30.0	60.0		25.0		115.0		15.0	115.0
Actuated g/C Ratio		0.22	0.22	0.26	0.52		0.22		1.00		0.13	1.00
v/c Ratio		1.10	0.61	0.37	0.52		0.71		0.29		0.95	0.05
Control Delay		118.7	14.4	37.6	20.4		47.9		0.5		81.9	0.1
Queue Delay		0.0	0.0	0.0	0.0		0.0		0.0		0.0	0.0
Total Delay		118.7	14.4	37.6	20.4		47.9		0.5		81.9	0.1
LOS		F	B	D	C		D		A		F	A
Approach Delay		75.2			24.8			25.5			70.1	
Approach LOS		E			C			C			E	
Queue Length 50th (ft)		~374	36	102	231		187		0		167	0
Queue Length 95th (ft)		#536	112	166	322		247		0		#247	0
Internal Link Dist (ft)		339			454			1605			244	
Turn Bay Length (ft)			200	150					160			125
Base Capacity (vph)		401	520	455	962		735		1615		450	1538
Starvation Cap Reductn		0	0	0	0		0		0		0	0
Spillback Cap Reductn		0	0	0	0		0		0		0	0
Storage Cap Reductn		0	0	0	0		0		0		0	0
Reduced v/c Ratio		1.10	0.61	0.37	0.52		0.71		0.29		0.95	0.05

Intersection Summary

Area Type: Other
 Cycle Length: 115
 Actuated Cycle Length: 115
 Natural Cycle: 80
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 1.10
 Intersection Signal Delay: 45.9
 Intersection Capacity Utilization 68.4%
 Analysis Period (min) 15
 - Volume exceeds capacity, queue is theoretically infinite.
 Queue shown is maximum after two cycles.
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Splits and Phases: 3: Hammond Pond Parkway/Hobart Road & Beacon Street



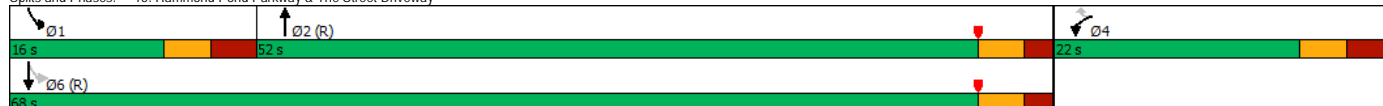
						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	110	103	753	66	97	719
Future Volume (vph)	110	103	753	66	97	719
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	11	11	11
Storage Length (ft)	0	0		0	150	
Storage Lanes	1	1		0	1	
Taper Length (ft)	25				25	
Satd. Flow (prot)	1728	1561	3373	0	1728	3455
Flt Permitted	0.950				0.258	
Satd. Flow (perm)	1728	1561	3373	0	469	3455
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		116	17			
Link Speed (mph)	30		30			30
Link Distance (ft)	146		241			402
Travel Time (s)	3.3		5.5			9.1
Peak Hour Factor	0.89	0.89	0.94	0.82	0.93	0.90
Heavy Vehicles (%)	1%	0%	2%	2%	1%	1%
Adj. Flow (vph)	124	116	801	80	104	799
Shared Lane Traffic (%)						
Lane Group Flow (vph)	124	116	881	0	104	799
Turn Type	Prot	Perm	NA		pm+pt	NA
Protected Phases	4		2		1	6
Permitted Phases		4			6	
Detector Phase	4	4	2		1	6
Switch Phase						
Minimum Initial (s)	6.0	6.0	10.0		6.0	10.0
Minimum Split (s)	19.0	19.0	22.0		16.0	15.0
Total Split (s)	22.0	22.0	52.0		16.0	68.0
Total Split (%)	24.4%	24.4%	57.8%		17.8%	75.6%
Yellow Time (s)	3.0	3.0	3.0		3.0	3.0
All-Red Time (s)	3.0	3.0	2.0		3.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	6.0	6.0	5.0		6.0	5.0
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?			Yes		Yes	
Recall Mode	None	None	C-Min		None	C-Min
Act Effect Green (s)	10.8	10.8	58.1		67.2	68.2
Actuated g/C Ratio	0.12	0.12	0.65		0.75	0.76
v/c Ratio	0.60	0.40	0.40		0.24	0.31
Control Delay	49.0	11.2	11.0		4.9	4.1
Queue Delay	0.0	0.0	0.9		0.0	0.0
Total Delay	49.0	11.2	11.9		4.9	4.1
LOS	D	B	B		A	A
Approach Delay	30.7		11.9			4.2
Approach LOS	C		B			A
Queue Length 50th (ft)	68	0	80		13	60
Queue Length 95th (ft)	116	44	207		32	102
Internal Link Dist (ft)	66		161			322
Turn Bay Length (ft)					150	
Base Capacity (vph)	307	372	2184		490	2618
Starvation Cap Reductn	0	0	938		0	0
Spillback Cap Reductn	0	0	0		0	63
Storage Cap Reductn	0	0	0		0	0
Reduced v/c Ratio	0.40	0.31	0.71		0.21	0.31













Intersection Summary

Area Type: Other
 Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 12 (13%), Referenced to phase 2:NBT and 6:SBTL, Start of Yellow
 Natural Cycle: 60
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.60
 Intersection Signal Delay: 10.7
 Intersection Capacity Utilization 48.6%
 Analysis Period (min) 15

Intersection LOS: B
 ICU Level of Service A

Splits and Phases: 15: Hammond Pond Parkway & The Street Driveway



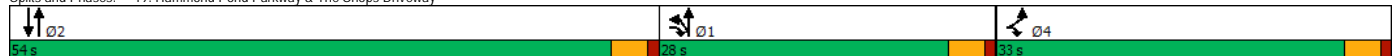
						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	117	92	57	799	719	118
Future Volume (vph)	117	92	57	799	719	118
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	11	11	11
Storage Length (ft)	0	0	115			0
Storage Lanes	2	1	1			0
Taper Length (ft)	25		25			
Satd. Flow (prot)	3385	1546	1586	1818	3384	0
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	3385	1546	1586	1818	3384	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		95			21	
Link Speed (mph)	30			30	30	
Link Distance (ft)	411			1024	427	
Travel Time (s)	9.3			23.3	9.7	
Peak Hour Factor	0.79	0.85	0.84	0.84	0.90	0.87
Heavy Vehicles (%)	0%	1%	10%	1%	1%	0%
Adj. Flow (vph)	148	108	68	951	799	136
Shared Lane Traffic (%)						
Lane Group Flow (vph)	148	108	68	951	935	0
Turn Type	Prot	pt+ov	Prot	NA	NA	
Protected Phases	4	4 1	1	1 2	2	
Permitted Phases						
Detector Phase	4	4 1	1	1 2	2	
Switch Phase						
Minimum Initial (s)	14.0		14.0		16.0	
Minimum Split (s)	18.0		18.0		20.0	
Total Split (s)	33.0		28.0		54.0	
Total Split (%)	28.7%		24.3%		47.0%	
Yellow Time (s)	3.0		3.0		3.0	
All-Red Time (s)	1.0		1.0		1.0	
Lost Time Adjust (s)	0.0		0.0		0.0	
Total Lost Time (s)	4.0		4.0		4.0	
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?			Yes		Yes	
Recall Mode	None		None		Min	
Act Effect Green (s)	14.2	35.5	17.2	65.7	44.4	
Actuated g/C Ratio	0.16	0.40	0.20	0.75	0.50	
v/c Ratio	0.27	0.16	0.22	0.70	0.54	
Control Delay	36.6	5.8	33.4	9.0	16.0	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	36.6	5.8	33.4	9.0	16.0	
LOS	D	A	C	A	B	
Approach Delay	23.6			10.6	16.0	
Approach LOS	C			B	B	
Queue Length 50th (ft)	39	5	35	222	164	
Queue Length 95th (ft)	64	32	66	279	261	
Internal Link Dist (ft)	331			944	347	
Turn Bay Length (ft)			115			
Base Capacity (vph)	1131	930	438	1504	1959	
Starvation Cap Reductn	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	
Reduced v/c Ratio	0.13	0.12	0.16	0.63	0.48	

Intersection Summary

Area Type: Other
Cycle Length: 115
Actuated Cycle Length: 88
Natural Cycle: 60
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.70
Intersection Signal Delay: 14.4
Intersection Capacity Utilization 60.4%
Analysis Period (min) 15

Intersection LOS: B
ICU Level of Service B













Splits and Phases: 19: Hammond Pond Parkway & The Shops Driveway























HCM Unsignalized Intersection Capacity Analysis

11: Hammond Pond Parkway & #300 Driveway

10/29/2020

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations				 	 	
Traffic Volume (veh/h)	4	4	2	922	788	5
Future Volume (Veh/h)	4	4	2	922	788	5
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.33	0.50	0.50	0.86	0.92	0.62
Hourly flow rate (vph)	12	8	4	1072	857	8
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh						
Upstream signal (ft)				427		
pX, platoon unblocked						
vC, conflicting volume	1405	432	865			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1405	432	865			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	91	99	99			
cM capacity (veh/h)	132	577	787			
Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	12	8	361	715	571	294
Volume Left	12	0	4	0	0	0
Volume Right	0	8	0	0	0	8
cSH	132	577	787	1700	1700	1700
Volume to Capacity	0.09	0.01	0.01	0.42	0.34	0.17
Queue Length 95th (ft)	7	1	0	0	0	0
Control Delay (s)	35.0	11.3	0.2	0.0	0.0	0.0
Lane LOS	D	B	A			
Approach Delay (s)	25.5		0.1		0.0	
Approach LOS	D					
Intersection Summary						
Average Delay			0.3			
Intersection Capacity Utilization			36.9%	ICU Level of Service		A
Analysis Period (min)			15			

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	221	309	126	289	0	428	0	329	7	231	22
Future Volume (vph)	0	221	309	126	289	0	428	0	329	7	231	22
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	10	11	12	12	11	12	12	12	11	12
Storage Length (ft)	0		200	150		0	0		160	0		125
Storage Lanes	0		1	1		0	2		1	0		1
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	0	1900	1507	1745	1900	0	3385	0	1615	0	3479	1615
Flt Permitted				0.950			0.950				0.997	
Satd. Flow (perm)	0	1900	1452	1735	1900	0	3385	0	1615	0	3479	1615
Right Turn on Red			Yes			Yes			Yes		Yes	
Satd. Flow (RTOR)			359						378			161
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		419			534			1685			324	
Travel Time (s)		9.5			12.1			38.3			7.4	
Confl. Peds. (#/hr)			7	7								
Confl. Bikes (#/hr)			15			7						
Peak Hour Factor	0.92	0.86	0.86	0.92	0.89	0.92	0.93	0.25	0.85	0.44	0.86	0.74
Heavy Vehicles (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	0	257	359	137	325	0	460	0	387	16	269	30
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	257	359	137	325	0	460	0	387	0	285	30
Turn Type		NA	Perm	Prot	NA		Prot		Free	Split	NA	Free
Protected Phases		2		1	1 2		4			3	3	
Permitted Phases			2						Free			Free
Detector Phase		2	2	1	1 2		4			3	3	
Switch Phase												
Minimum Initial (s)		10.0	10.0	8.0			8.0			8.0	8.0	
Minimum Split (s)		15.0	15.0	13.0			20.0			13.0	13.0	
Total Split (s)		30.0	30.0	35.0			30.0			20.0	20.0	
Total Split (%)		26.1%	26.1%	30.4%			26.1%			17.4%	17.4%	
Yellow Time (s)		4.0	4.0	4.0			4.0			4.0	4.0	
All-Red Time (s)		1.0	1.0	1.0			1.0			1.0	1.0	
Lost Time Adjust (s)		0.0	0.0	0.0			0.0			0.0	0.0	
Total Lost Time (s)		5.0	5.0	5.0			5.0			5.0	5.0	
Lead/Lag		Lag	Lag	Lead			Lag			Lead	Lead	
Lead-Lag Optimize?		Yes	Yes	Yes			Yes			Yes	Yes	
Recall Mode		Max	Max	Max			Max			Max	Max	
Act Effct Green (s)		25.0	25.0	30.0	60.0		25.0		115.0		15.0	115.0
Actuated g/C Ratio		0.22	0.22	0.26	0.52		0.22		1.00		0.13	1.00
v/c Ratio		0.62	0.60	0.30	0.33		0.63		0.24		0.63	0.02
Control Delay		48.3	8.7	36.3	17.0		45.1		0.3		54.2	0.0
Queue Delay		0.0	0.0	0.0	0.0		0.0		0.0		0.0	0.0
Total Delay		48.3	8.7	36.3	17.0		45.1		0.3		54.2	0.0
LOS		D	A	D	B		D		A		D	A
Approach Delay		25.2			22.8			24.7			49.1	
Approach LOS		C			C			C			D	
Queue Length 50th (ft)		173	0	82	134		160		0		106	0
Queue Length 95th (ft)		249	63	139	193		215		0		145	0
Internal Link Dist (ft)		339			454			1605			244	
Turn Bay Length (ft)			200	150					160			125
Base Capacity (vph)		413	596	455	991		735		1615		453	1615
Starvation Cap Reductn		0	0	0	0		0		0		0	0
Spillback Cap Reductn		0	0	0	0		0		0		0	0
Storage Cap Reductn		0	0	0	0		0		0		0	0
Reduced v/c Ratio		0.62	0.60	0.30	0.33		0.63		0.24		0.63	0.02












Intersection Summary

Area Type: Other
 Cycle Length: 115
 Actuated Cycle Length: 115
 Natural Cycle: 65
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.63
 Intersection Signal Delay: 27.8
 Intersection Capacity Utilization 53.3%
 Analysis Period (min) 15

Intersection LOS: C
 ICU Level of Service A

Splits and Phases: 3: Hammond Pond Parkway/Hobart Road & Beacon Street



						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	141	119	629	73	114	485
Future Volume (vph)	141	119	629	73	114	485
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	11	11	11
Storage Length (ft)	0	0		0	150	
Storage Lanes	1	1		0	1	
Taper Length (ft)	25				25	
Satd. Flow (prot)	1745	1561	3397	0	1745	3455
Flt Permitted	0.950				0.295	
Satd. Flow (perm)	1745	1561	3397	0	542	3455
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		134	25			
Link Speed (mph)	30		30			30
Link Distance (ft)	146		241			402
Travel Time (s)	3.3		5.5			9.1
Peak Hour Factor	0.89	0.89	0.94	0.82	0.93	0.90
Heavy Vehicles (%)	0%	0%	1%	0%	0%	1%
Adj. Flow (vph)	158	134	669	89	123	539
Shared Lane Traffic (%)						
Lane Group Flow (vph)	158	134	758	0	123	539
Turn Type	Prot	Perm	NA		pm+pt	NA
Protected Phases	4		2		1	6
Permitted Phases		4			6	
Detector Phase	4	4	2		1	6
Switch Phase						
Minimum Initial (s)	6.0	6.0	10.0		6.0	10.0
Minimum Split (s)	19.0	19.0	22.0		16.0	15.0
Total Split (s)	21.0	21.0	53.0		16.0	69.0
Total Split (%)	23.3%	23.3%	58.9%		17.8%	76.7%
Yellow Time (s)	3.0	3.0	3.0		3.0	3.0
All-Red Time (s)	3.0	3.0	2.0		3.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	6.0	6.0	5.0		6.0	5.0
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?			Yes		Yes	
Recall Mode	None	None	C-Min		None	C-Min
Act Effect Green (s)	12.4	12.4	53.8		65.6	66.6
Actuated g/C Ratio	0.14	0.14	0.60		0.73	0.74
v/c Ratio	0.66	0.41	0.37		0.25	0.21
Control Delay	49.3	9.9	5.9		5.5	4.2
Queue Delay	0.0	0.0	0.3		0.0	0.0
Total Delay	49.3	9.9	6.2		5.5	4.2
LOS	D	A	A		A	A
Approach Delay	31.2		6.2			4.5
Approach LOS	C		A			A
Queue Length 50th (ft)	86	0	39		17	40
Queue Length 95th (ft)	139	45	52		40	72
Internal Link Dist (ft)	66		161			322
Turn Bay Length (ft)					150	
Base Capacity (vph)	300	379	2048		528	2575
Starvation Cap Reductn	0	0	677		0	0
Spillback Cap Reductn	0	0	0		0	262
Storage Cap Reductn	0	0	0		0	0
Reduced v/c Ratio	0.53	0.35	0.55		0.23	0.23












Intersection Summary

Area Type: Other
 Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 9 (10%), Referenced to phase 2:NBT and 6:SBTL, Start of Yellow
 Natural Cycle: 60
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.66
 Intersection Signal Delay: 9.8
 Intersection Capacity Utilization 48.0%
 Analysis Period (min) 15

Intersection LOS: A
 ICU Level of Service A

Splits and Phases: 15: Hammond Pond Parkway & The Street Driveway



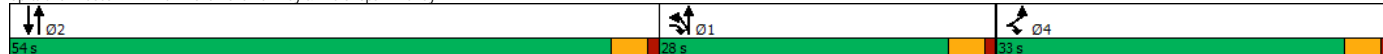
						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	137	110	107	620	461	233
Future Volume (vph)	137	110	107	620	461	233
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	11	11	11
Storage Length (ft)	0	0	115			0
Storage Lanes	2	1	1			0
Taper Length (ft)	25		25			
Satd. Flow (prot)	3351	1561	1728	1818	3287	0
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	3351	1561	1728	1818	3287	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		129			104	
Link Speed (mph)	30			30	30	
Link Distance (ft)	411			1024	427	
Travel Time (s)	9.3			23.3	9.7	
Peak Hour Factor	0.79	0.85	0.84	0.84	0.90	0.87
Heavy Vehicles (%)	1%	0%	1%	1%	1%	0%
Adj. Flow (vph)	173	129	127	738	512	268
Shared Lane Traffic (%)						
Lane Group Flow (vph)	173	129	127	738	780	0
Turn Type	Prot	pt+ov	Prot	NA	NA	
Protected Phases	4	4 1	1	1 2	2	
Permitted Phases						
Detector Phase	4	4 1	1	1 2	2	
Switch Phase						
Minimum Initial (s)	14.0		14.0		16.0	
Minimum Split (s)	18.0		18.0		20.0	
Total Split (s)	33.0		28.0		54.0	
Total Split (%)	28.7%		24.3%		47.0%	
Yellow Time (s)	3.0		3.0		3.0	
All-Red Time (s)	1.0		1.0		1.0	
Lost Time Adjust (s)	0.0		0.0		0.0	
Total Lost Time (s)	4.0		4.0		4.0	
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?			Yes		Yes	
Recall Mode	None		None		Min	
Act Effect Green (s)	14.4	35.8	17.2	54.5	33.2	
Actuated g/C Ratio	0.19	0.46	0.22	0.71	0.43	
v/c Ratio	0.28	0.16	0.33	0.57	0.53	
Control Delay	32.1	3.8	30.3	7.2	14.9	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	32.1	3.8	30.3	7.2	14.9	
LOS	C	A	C	A	B	
Approach Delay	20.0			10.6	14.9	
Approach LOS	C			B	B	
Queue Length 50th (ft)	35	0	50	138	111	
Queue Length 95th (ft)	73	29	110	176	188	
Internal Link Dist (ft)	331			944	347	
Turn Bay Length (ft)			115			
Base Capacity (vph)	1297	1079	553	1468	2228	
Starvation Cap Reductn	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	
Reduced v/c Ratio	0.13	0.12	0.23	0.50	0.35	

Intersection Summary

Area Type: Other
 Cycle Length: 115
 Actuated Cycle Length: 77.2
 Natural Cycle: 60
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.57
 Intersection Signal Delay: 13.8
 Intersection Capacity Utilization 53.5%
 Analysis Period (min) 15

Intersection LOS: B
 ICU Level of Service A













Splits and Phases: 19: Hammond Pond Parkway & The Shops Driveway



HCM Unsignalized Intersection Capacity Analysis

11: Hammond Pond Parkway & #300 Driveway





















10/29/2020

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations				 	 	
Traffic Volume (veh/h)	0	0	0	0	0	0
Future Volume (Veh/h)	0	0	0	0	0	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.33	0.50	0.50	0.86	0.92	0.62
Hourly flow rate (vph)	0	0	0	0	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh						
Upstream signal (ft)				427		
pX, platoon unblocked						
vC, conflicting volume	0	0	0			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	0	0	0			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	100			
cM capacity (veh/h)	1029	1091	1636			
Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	0	0	0	0	0	0
Volume Left	0	0	0	0	0	0
Volume Right	0	0	0	0	0	0
cSH	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.00	0.00	0.00	0.00	0.00	0.00
Queue Length 95th (ft)	0	0	0	0	0	0
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS	A	A				
Approach Delay (s)	0.0		0.0		0.0	
Approach LOS	A					
Intersection Summary						
Average Delay			0.0			
Intersection Capacity Utilization			0.0%	ICU Level of Service		A
Analysis Period (min)			15			

Lanes, Volumes, Timings

3: Hammond Pond Parkway/Hobart Road & Beacon Street

02/01/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	493	183	90	460	0	497	0	734	15	274	40
Future Volume (vph)	0	493	183	90	460	0	497	0	734	15	274	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	10	11	12	12	11	12	11	12	11	12
Storage Length (ft)	0		200	150		0	0		160	0		125
Storage Lanes	0		1	1		0	2		1	0		1
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	0	1845	1507	1745	1845	0	3319	0	1546	0	3403	1538
Flt Permitted				0.950			0.950				0.995	
Satd. Flow (perm)	0	1845	1507	1745	1845	0	3319	0	1546	0	3403	1538
Right Turn on Red			Yes			Yes			Yes		Yes	
Satd. Flow (RTOR)			134						728		161	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		419			534			1685			324	
Travel Time (s)		9.5			12.1			38.3			7.4	
Peak Hour Factor	0.92	0.86	0.86	0.92	0.89	0.92	0.93	0.25	0.85	0.44	0.86	0.74
Heavy Vehicles (%)	0%	3%	0%	0%	3%	0%	2%	0%	1%	21%	0%	5%
Adj. Flow (vph)	0	573	213	98	517	0	534	0	864	34	319	54
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	573	213	98	517	0	534	0	864	0	353	54
Turn Type		NA	Perm	Prot	NA		Prot		Free	Split	NA	Free
Protected Phases		2		1	1 2		4			3	3	
Permitted Phases			2						Free			Free
Detector Phase		2	2	1	1 2		4			3	3	
Switch Phase												
Minimum Initial (s)		10.0	10.0	8.0			8.0			8.0	8.0	
Minimum Split (s)		15.0	15.0	13.0			23.0			13.0	13.0	
Total Split (s)		30.0	30.0	35.0			30.0			20.0	20.0	
Total Split (%)		26.1%	26.1%	30.4%			26.1%			17.4%	17.4%	
Yellow Time (s)		4.0	4.0	4.0			4.0			4.0	4.0	
All-Red Time (s)		1.0	1.0	1.0			1.0			1.0	1.0	
Lost Time Adjust (s)		0.0	0.0	0.0			0.0			0.0	0.0	
Total Lost Time (s)		5.0	5.0	5.0			5.0			5.0	5.0	
Lead/Lag		Lag	Lag	Lead			Lag			Lead	Lead	
Lead-Lag Optimize?		Yes	Yes	Yes			Yes			Yes	Yes	
Recall Mode		Max	Max	Max			Max			Max	Max	
Act Effect Green (s)		25.0	25.0	30.0	60.0		25.0		115.0		15.0	115.0
Actuated g/C Ratio		0.22	0.22	0.26	0.52		0.22		1.00		0.13	1.00
v/c Ratio		1.43	0.49	0.22	0.54		0.74		0.56		0.80	0.04
Control Delay		241.6	19.4	34.9	20.9		49.1		1.5		62.8	0.1
Queue Delay		0.0	0.0	0.0	0.0		0.0		0.0		0.0	0.0
Total Delay		241.6	19.4	34.9	20.9		49.1		1.5		62.8	0.1
LOS		F	B	C	C		D		A		E	A
Approach Delay		181.4			23.1			19.7			54.5	
Approach LOS		F			C			B			D	
Queue Length 50th (ft)		~574	49	57	245		191		0		135	0
Queue Length 95th (ft)		#743	112	103	338		253		0		#183	0
Internal Link Dist (ft)		339			454			1605			244	
Turn Bay Length (ft)			200	150					160			125
Base Capacity (vph)		401	432	455	962		721		1546		443	1538
Starvation Cap Reductn		0	0	0	0		0		0		0	0
Spillback Cap Reductn		0	0	0	0		0		0		0	0
Storage Cap Reductn		0	0	0	0		0		0		0	0
Reduced v/c Ratio		1.43	0.49	0.22	0.54		0.74		0.56		0.80	0.04

Intersection Summary

Area Type: Other

Cycle Length: 115

Actuated Cycle Length: 115

Natural Cycle: 80

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 1.43

Intersection Signal Delay: 64.4

Intersection Capacity Utilization 70.6%

Analysis Period (min) 15

- Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.












Queue shown is maximum after two cycles.

Intersection LOS: E

ICU Level of Service C

Splits and Phases: 3: Hammond Pond Parkway/Hobart Road & Beacon Street



						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	18	17	1377	140	39	524
Future Volume (vph)	18	17	1377	140	39	524
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	11	11	11
Storage Length (ft)	0	0		0	150	
Storage Lanes	1	1		0	1	
Taper Length (ft)	25				25	
Satd. Flow (prot)	1728	1561	3367	0	1728	3455
Flt Permitted	0.950				0.101	
Satd. Flow (perm)	1728	1561	3367	0	184	3455
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		19	21			
Link Speed (mph)	30		30			30
Link Distance (ft)	146		241			402
Travel Time (s)	3.3		5.5			9.1
Peak Hour Factor	0.89	0.89	0.94	0.82	0.93	0.90
Heavy Vehicles (%)	1%	0%	2%	2%	1%	1%
Adj. Flow (vph)	20	19	1465	171	42	582
Shared Lane Traffic (%)						
Lane Group Flow (vph)	20	19	1636	0	42	582
Turn Type	Prot	Perm	NA		pm+pt	NA
Protected Phases	4		2		1	6
Permitted Phases		4			6	
Detector Phase	4	4	2		1	6
Switch Phase						
Minimum Initial (s)	6.0	6.0	10.0		6.0	10.0
Minimum Split (s)	16.0	16.0	19.0		16.0	15.0
Total Split (s)	22.0	22.0	52.0		16.0	68.0
Total Split (%)	24.4%	24.4%	57.8%		17.8%	75.6%
Yellow Time (s)	3.0	3.0	3.0		3.0	3.0
All-Red Time (s)	3.0	3.0	2.0		3.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	6.0	6.0	5.0		6.0	5.0
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?			Yes		Yes	
Recall Mode	None	None	C-Min		None	C-Min
Act Effect Green (s)	6.3	6.3	72.3		76.5	79.5
Actuated g/C Ratio	0.07	0.07	0.80		0.85	0.88
v/c Ratio	0.17	0.15	0.60		0.16	0.19
Control Delay	42.4	19.7	2.7		3.2	1.6
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	42.4	19.7	2.8		3.2	1.6
LOS	D	B	A		A	A
Approach Delay	31.3		2.8			1.7
Approach LOS	C		A			A
Queue Length 50th (ft)	11	0	146		4	28
Queue Length 95th (ft)	33	21	36		10	43
Internal Link Dist (ft)	66		161			322
Turn Bay Length (ft)					150	
Base Capacity (vph)	307	293	2709		328	3052
Starvation Cap Reductn	0	0	67		0	0
Spillback Cap Reductn	0	0	0		0	190
Storage Cap Reductn	0	0	0		0	0
Reduced v/c Ratio	0.07	0.06	0.62		0.13	0.20

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 5 (6%), Referenced to phase 2:NBT and 6:SBTL, Start of Yellow

Natural Cycle: 75

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.60

Intersection Signal Delay: 3.0

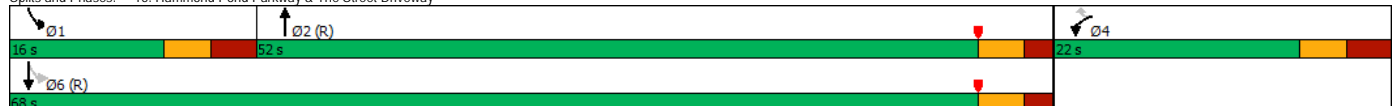
Intersection LOS: A

Intersection Capacity Utilization 56.7%

ICU Level of Service B












Analysis Period (min) 15

Splits and Phases: 15: Hammond Pond Parkway & The Street Driveway



Lanes, Volumes, Timings
19: Hammond Pond Parkway & The Shops Driveway

02/01/2021

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	44	14	26	1194	518	61
Future Volume (vph)	44	14	26	1194	518	61
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	11	11	11
Storage Length (ft)	0	0	115			0
Storage Lanes	2	1	1			0
Taper Length (ft)	25		25			
Satd. Flow (prot)	3385	1546	1586	1818	3403	0
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	3385	1546	1586	1818	3403	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		16			14	
Link Speed (mph)	30			30	30	
Link Distance (ft)	411			1024	427	
Travel Time (s)	9.3			23.3	9.7	
Peak Hour Factor	0.79	0.85	0.84	0.84	0.90	0.87
Heavy Vehicles (%)	0%	1%	10%	1%	1%	0%
Adj. Flow (vph)	56	16	31	1421	576	70
Shared Lane Traffic (%)						
Lane Group Flow (vph)	56	16	31	1421	646	0
Turn Type	Prot	pt+ov	Prot	NA	NA	
Protected Phases	4	4 1	1	1 2	2	
Permitted Phases						
Detector Phase	4	4 1	1	1 2	2	
Switch Phase						
Minimum Initial (s)	14.0		14.0		16.0	
Minimum Split (s)	18.0		18.0		20.0	
Total Split (s)	33.0		28.0		54.0	
Total Split (%)	28.7%		24.3%		47.0%	
Yellow Time (s)	3.0		3.0		3.0	
All-Red Time (s)	1.0		1.0		1.0	
Lost Time Adjust (s)	0.0		0.0		0.0	
Total Lost Time (s)	4.0		4.0		4.0	
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?			Yes		Yes	
Recall Mode	None		None		Min	
Act Effct Green (s)	14.1	42.3	24.2	79.4	50.3	
Actuated g/C Ratio	0.15	0.44	0.25	0.82	0.52	
v/c Ratio	0.11	0.02	0.08	0.95	0.36	
Control Delay	38.3	8.0	30.3	25.6	14.8	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	38.3	8.0	30.3	25.6	14.8	
LOS	D	A	C	C	B	
Approach Delay	31.6			25.7	14.8	
Approach LOS	C			C	B	
Queue Length 50th (ft)	16	0	15	~733	125	
Queue Length 95th (ft)	30	11	37	#1063	166	
Internal Link Dist (ft)	331			944	347	
Turn Bay Length (ft)			115			
Base Capacity (vph)	1024	926	397	1498	1782	
Starvation Cap Reductn	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	
Reduced v/c Ratio	0.05	0.02	0.08	0.95	0.36	

Intersection Summary

Area Type: Other
Cycle Length: 115
Actuated Cycle Length: 96.4
Natural Cycle: 80
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.95
Intersection Signal Delay: 22.7
Intersection Capacity Utilization 81.2%
Analysis Period (min) 15
- Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Intersection LOS: C
ICU Level of Service D










Splits and Phases: 19: Hammond Pond Parkway & The Shops Driveway























HCM Unsignalized Intersection Capacity Analysis

11: Hammond Pond Parkway & #300 Driveway

10/29/2020

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	22	33	14	1226	539	17
Future Volume (Veh/h)	22	33	14	1226	539	17
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.33	0.50	0.50	0.86	0.92	0.62
Hourly flow rate (vph)	67	66	28	1426	586	27
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh						
Upstream signal (ft)				427		
pX, platoon unblocked						
vC, conflicting volume	1368	306	613			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1368	306	613			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	51	91	97			
cM capacity (veh/h)	136	695	976			
Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2	
Volume Total	133	503	951	391	222	
Volume Left	67	28	0	0	0	
Volume Right	66	0	0	0	27	
cSH	227	976	1700	1700	1700	
Volume to Capacity	0.59	0.03	0.56	0.23	0.13	
Queue Length 95th (ft)	83	2	0	0	0	
Control Delay (s)	41.2	0.8	0.0	0.0	0.0	
Lane LOS	E	A				
Approach Delay (s)	41.2	0.3		0.0		
Approach LOS	E					
Intersection Summary						
Average Delay			2.7			
Intersection Capacity Utilization			53.7%	ICU Level of Service		A
Analysis Period (min)			15			

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	401	287	163	465	0	513	0	420	8	373	56
Future Volume (vph)	0	401	287	163	465	0	513	0	420	8	373	56
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	10	11	12	12	11	12	11	12	11	12
Storage Length (ft)	0		200	150		0	0		160	0		125
Storage Lanes	0		1	1		0	2		1	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.97	1.00	1.00	0.95	0.95	1.00
Frt			0.850						0.850			0.850
Flt Protected				0.950			0.950				0.998	
Satd. Flow (prot)	0	1845	1507	1745	1845	0	3385	0	1561	0	3454	1538
Flt Permitted				0.950			0.950				0.998	
Satd. Flow (perm)	0	1845	1507	1745	1845	0	3385	0	1561	0	3454	1538
Right Turn on Red			Yes			Yes			Yes		Yes	
Satd. Flow (RTOR)			258						402			161
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		419			534			1685			324	
Travel Time (s)		9.5			12.1			38.3			7.4	
Adj. Flow (vph)	0	466	334	177	522	0	552	0	494	18	434	76
Lane Group Flow (vph)	0	466	334	177	522	0	552	0	494	0	452	76
Turn Type		NA	Perm	Prot	NA		Prot		Free	Split	NA	Free
Protected Phases		2		1	1 2		4			3	3	
Permitted Phases			2					Free				Free
Detector Phase		2	2	1	1 2		4			3	3	
Switch Phase												
Minimum Initial (s)		10.0	10.0	8.0			8.0			8.0	8.0	
Minimum Split (s)		15.0	15.0	13.0			23.0			13.0	13.0	
Total Split (s)		30.0	30.0	35.0			30.0			20.0	20.0	
Total Split (%)		26.1%	26.1%	30.4%			26.1%			17.4%	17.4%	
Yellow Time (s)		4.0	4.0	4.0			4.0			4.0	4.0	
All-Red Time (s)		1.0	1.0	1.0			1.0			1.0	1.0	
Lost Time Adjust (s)		0.0	0.0	0.0			0.0			0.0	0.0	
Total Lost Time (s)		5.0	5.0	5.0			5.0			5.0	5.0	
Lead/Lag		Lag	Lag	Lead			Lag			Lead	Lead	
Lead-Lag Optimize?		Yes	Yes	Yes			Yes			Yes	Yes	
Recall Mode		Max	Max	Max			Max			Max	Max	
Act Effect Green (s)		25.0	25.0	30.0	60.0		25.0		115.0		15.0	115.0
Actuated g/C Ratio		0.22	0.22	0.26	0.52		0.22		1.00		0.13	1.00
v/c Ratio		1.16	0.63	0.39	0.54		0.75		0.32		1.00	0.05
Control Delay		137.8	16.1	38.0	21.0		49.4		0.5		93.8	0.1
Queue Delay		0.0	0.0	0.0	0.0		0.0		0.0		0.0	0.0
Total Delay		137.8	16.1	38.0	21.0		49.4		0.5		93.8	0.1
LOS		F	B	D	C		D		A		F	A
Approach Delay		87.0			25.3			26.3			80.3	
Approach LOS		F			C			C			F	
Queue Length 50th (ft)		~409	47	108	248		198		0		~179	0
Queue Length 95th (ft)		#573	127	174	342		261		0		#269	0
Internal Link Dist (ft)		339			454			1605			244	
Turn Bay Length (ft)			200	150					160			125
Base Capacity (vph)		401	529	455	962		735		1561		450	1538
Starvation Cap Reductn		0	0	0	0		0		0		0	0
Spillback Cap Reductn		0	0	0	0		0		0		0	0
Storage Cap Reductn		0	0	0	0		0		0		0	0
Reduced v/c Ratio		1.16	0.63	0.39	0.54		0.75		0.32		1.00	0.05

Intersection Summary

Area Type: Other

Cycle Length: 115

Actuated Cycle Length: 115

Natural Cycle: 80

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 1.16

Intersection Signal Delay: 51.2

Intersection LOS: D

Intersection Capacity Utilization 71.1%

ICU Level of Service C

Analysis Period (min) 15

- Volume exceeds capacity, queue is theoretically infinite.












Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 3: Hammond Pond Parkway/Hobart Road & Beacon Street



						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	116	109	792	70	102	756
Future Volume (vph)	116	109	792	70	102	756
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	11	11	11
Storage Length (ft)	0	0		0	150	
Storage Lanes	1	1		0	1	
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	0.95	0.95	1.00	0.95
Frt		0.850	0.986			
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1728	1561	3373	0	1728	3455
Flt Permitted	0.950				0.242	
Satd. Flow (perm)	1728	1561	3373	0	440	3455
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		122	18			
Link Speed (mph)	30		30			30
Link Distance (ft)	146		241			402
Travel Time (s)	3.3		5.5			9.1
Adj. Flow (vph)	130	122	843	85	110	840
Lane Group Flow (vph)	130	122	928	0	110	840
Turn Type	Prot	Perm	NA		pm+pt	NA
Protected Phases	4		2		1	6
Permitted Phases		4			6	
Detector Phase	4	4	2		1	6
Switch Phase						
Minimum Initial (s)	6.0	6.0	10.0		6.0	10.0
Minimum Split (s)	16.0	16.0	19.0		16.0	15.0
Total Split (s)	22.0	22.0	52.0		16.0	68.0
Total Split (%)	24.4%	24.4%	57.8%		17.8%	75.6%
Yellow Time (s)	3.0	3.0	3.0		3.0	3.0
All-Red Time (s)	3.0	3.0	2.0		3.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	6.0	6.0	5.0		6.0	5.0
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?			Yes		Yes	
Recall Mode	None	None	C-Min		None	C-Min
Act Effect Green (s)	11.1	11.1	57.8		66.9	67.9
Actuated g/C Ratio	0.12	0.12	0.64		0.74	0.75
v/c Ratio	0.61	0.41	0.43		0.26	0.32
Control Delay	49.1	10.9	6.5		5.3	4.3
Queue Delay	0.0	0.0	0.3		0.0	0.2
Total Delay	49.1	10.9	6.8		5.3	4.5
LOS	D	B	A		A	A
Approach Delay	30.6		6.8			4.6
Approach LOS	C		A			A
Queue Length 50th (ft)	71	0	80		14	65
Queue Length 95th (ft)	121	45	110		34	111
Internal Link Dist (ft)	66		161			322
Turn Bay Length (ft)					150	
Base Capacity (vph)	307	377	2171		470	2606
Starvation Cap Reductn	0	0	573		0	0
Spillback Cap Reductn	0	0	0		0	878
Storage Cap Reductn	0	0	0		0	0
Reduced v/c Ratio	0.42	0.32	0.58		0.23	0.49













Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 5 (6%), Referenced to phase 2:NBT and 6:SBTL, Start of Yellow
Natural Cycle: 55
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.61
Intersection Signal Delay: 8.6
Intersection Capacity Utilization 50.4%
Analysis Period (min) 15

Intersection LOS: A
ICU Level of Service A

Splits and Phases: 15: Hammond Pond Parkway & The Street Driveway



						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	123	97	60	840	756	125
Future Volume (vph)	123	97	60	840	756	125
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	11	11	11
Storage Length (ft)	0	0	115			0
Storage Lanes	2	1	1			0
Taper Length (ft)	25		25			
Lane Util. Factor	0.97	1.00	1.00	1.00	0.95	0.95
Frt		0.850			0.978	
Flt Protected	0.950		0.950			
Satd. Flow (prot)	3385	1546	1586	1818	3384	0
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	3385	1546	1586	1818	3384	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		84			21	
Link Speed (mph)	30			30	30	
Link Distance (ft)	411			1024	427	
Travel Time (s)	9.3			23.3	9.7	
Adj. Flow (vph)	156	114	71	1000	840	144
Lane Group Flow (vph)	156	114	71	1000	984	0
Turn Type	Prot	pt+ov	Prot	NA	NA	
Protected Phases	4	4 1	1	1 2	2	
Permitted Phases						
Detector Phase	4	4 1	1	1 2	2	
Switch Phase						
Minimum Initial (s)	14.0		14.0		16.0	
Minimum Split (s)	18.0		18.0		20.0	
Total Split (s)	33.0		28.0		54.0	
Total Split (%)	28.7%		24.3%		47.0%	
Yellow Time (s)	3.0		3.0		3.0	
All-Red Time (s)	1.0		1.0		1.0	
Lost Time Adjust (s)	0.0		0.0		0.0	
Total Lost Time (s)	4.0		4.0		4.0	
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?			Yes		Yes	
Recall Mode	None		None		Min	
Act Effect Green (s)	14.2	36.1	17.9	68.3	46.3	
Actuated g/C Ratio	0.16	0.40	0.20	0.75	0.51	
v/c Ratio	0.29	0.17	0.23	0.73	0.57	
Control Delay	37.7	7.3	33.5	9.7	16.6	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	37.7	7.3	33.5	9.7	16.6	
LOS	D	A	C	A	B	
Approach Delay	24.9			11.3	16.6	
Approach LOS	C			B	B	
Queue Length 50th (ft)	42	11	36	248	184	
Queue Length 95th (ft)	67	39	68	312	280	
Internal Link Dist (ft)	331			944	347	
Turn Bay Length (ft)			115			
Base Capacity (vph)	1096	910	425	1493	1899	
Starvation Cap Reductn	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	
Reduced v/c Ratio	0.14	0.13	0.17	0.67	0.52	

Intersection Summary

Area Type: Other
Cycle Length: 115
Actuated Cycle Length: 90.5
Natural Cycle: 65
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.73
Intersection Signal Delay: 15.1
Intersection Capacity Utilization 62.5%
Analysis Period (min) 15

Intersection LOS: B
ICU Level of Service B











Splits and Phases: 19: Hammond Pond Parkway & The Shops Driveway























HCM Unsignalized Intersection Capacity Analysis

11: Hammond Pond Parkway & #300 Driveway

10/29/2020

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	5	5	3	970	829	6
Future Volume (Veh/h)	5	5	3	970	829	6
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.33	0.50	0.50	0.86	0.92	0.62
Hourly flow rate (vph)	15	10	6	1128	901	10
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh						
Upstream signal (ft)				427		
pX, platoon unblocked						
vC, conflicting volume	1482	456	911			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1482	456	911			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	87	98	99			
cM capacity (veh/h)	117	557	756			
Direction, Lane #	EB 1	EB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	15	10	382	752	601	310
Volume Left	15	0	6	0	0	0
Volume Right	0	10	0	0	0	10
cSH	117	557	756	1700	1700	1700
Volume to Capacity	0.13	0.02	0.01	0.44	0.35	0.18
Queue Length 95th (ft)	11	1	1	0	0	0
Control Delay (s)	40.2	11.6	0.3	0.0	0.0	0.0
Lane LOS	E	B	A			
Approach Delay (s)	28.7		0.1		0.0	
Approach LOS	D					
Intersection Summary						
Average Delay			0.4			
Intersection Capacity Utilization			38.9%		ICU Level of Service	A
Analysis Period (min)			15			

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	233	325	133	304	0	450	0	346	8	243	24
Future Volume (vph)	0	233	325	133	304	0	450	0	346	8	243	24
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	10	11	12	12	11	12	12	11	11	12
Storage Length (ft)	0		200	150		0	0		160	0		125
Storage Lanes	0		1	1		0	2		1	0		1
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	0	1845	1507	1745	1845	0	3385	0	1615	0	3436	1538
Flt Permitted				0.950			0.950				0.997	
Satd. Flow (perm)	0	1845	1507	1745	1845	0	3385	0	1615	0	3436	1538
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)			378						379			161
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		419			534			1685			324	
Travel Time (s)		9.5			12.1			38.3			7.4	
Peak Hour Factor	0.92	0.86	0.86	0.92	0.89	0.92	0.93	0.25	0.85	0.44	0.86	0.74
Heavy Vehicles (%)	0%	3%	0%	0%	3%	0%	0%	0%	0%	21%	0%	5%
Adj. Flow (vph)	0	271	378	145	342	0	484	0	407	18	283	32
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	271	378	145	342	0	484	0	407	0	301	32
Turn Type	NA	Perm	Prot	NA		Prot		Free	Split	NA	Free	
Protected Phases	2			1	1.2		4			3	3	
Permitted Phases			2					Free				Free
Detector Phase	2	2		1	1.2		4			3	3	
Switch Phase												
Minimum Initial (s)	10.0	10.0	8.0				8.0			8.0	8.0	
Minimum Split (s)	15.0	15.0	13.0				23.0			13.0	13.0	
Total Split (s)	30.0	30.0	35.0				30.0			20.0	20.0	
Total Split (%)	26.1%	26.1%	30.4%				26.1%			17.4%	17.4%	
Yellow Time (s)	4.0	4.0	4.0				4.0			4.0	4.0	
All-Red Time (s)	1.0	1.0	1.0				1.0			1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0				0.0			0.0	0.0	
Total Lost Time (s)	5.0	5.0	5.0				5.0			5.0	5.0	
Lead/Lag	Lag	Lag	Lead				Lag			Lead	Lead	
Lead-Lag Optimize?	Yes	Yes	Yes				Yes			Yes	Yes	
Recall Mode	Max	Max	Max				Max			Max	Max	
Act Effct Green (s)	25.0	25.0	30.0	60.0			25.0		115.0		15.0	115.0
Actuated g/C Ratio	0.22	0.22	0.26	0.52			0.22		1.00		0.13	1.00
v/c Ratio	0.68	0.61	0.32	0.36			0.66		0.25		0.67	0.02
Control Delay	50.8	8.4	36.6	17.5			46.1		0.4		55.9	0.0
Queue Delay	0.0	0.0	0.0	0.0			0.0		0.0		0.0	0.0
Total Delay	50.8	8.4	36.6	17.5			46.1		0.4		55.9	0.0
LOS	D	A	D	B			D		A		E	A
Approach Delay	26.1			23.2			25.2				50.5	
Approach LOS	C			C			C				D	
Queue Length 50th (ft)	185	0	87	143			170		0		113	0
Queue Length 95th (ft)	265	64	145	206			226		0		153	0
Internal Link Dist (ft)	339			454			1605				244	
Turn Bay Length (ft)		200	150						160			125
Base Capacity (vph)	401	623	455	962			735		1615		448	1538
Starvation Cap Reductn	0	0	0	0			0		0		0	0
Spillback Cap Reductn	0	0	0	0			0		0		0	0
Storage Cap Reductn	0	0	0	0			0		0		0	0
Reduced v/c Ratio	0.68	0.61	0.32	0.36			0.66		0.25		0.67	0.02












Intersection Summary

Area Type: Other
Cycle Length: 115
Actuated Cycle Length: 115
Natural Cycle: 65
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.68
Intersection Signal Delay: 28.6
Intersection Capacity Utilization 55.3%
Analysis Period (min) 15

Intersection LOS: C
ICU Level of Service B

Splits and Phases: 3: Hammond Pond Parkway/Hobart Street & Beacon Street



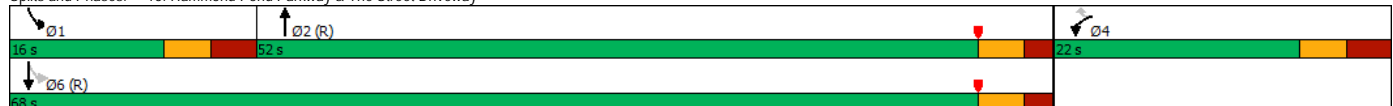
						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	149	126	662	77	120	510
Future Volume (vph)	149	126	662	77	120	510
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	11	11	11
Storage Length (ft)	0	0		0	150	
Storage Lanes	1	1		0	1	
Taper Length (ft)	25				25	
Satd. Flow (prot)	1728	1561	3360	0	1728	3455
Flt Permitted	0.950				0.277	
Satd. Flow (perm)	1728	1561	3360	0	504	3455
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		142	24			
Link Speed (mph)	30		30			30
Link Distance (ft)	146		241			402
Travel Time (s)	3.3		5.5			9.1
Peak Hour Factor	0.89	0.89	0.94	0.82	0.93	0.90
Heavy Vehicles (%)	1%	0%	2%	2%	1%	1%
Adj. Flow (vph)	167	142	704	94	129	567
Shared Lane Traffic (%)						
Lane Group Flow (vph)	167	142	798	0	129	567
Turn Type	Prot	Perm	NA		pm+pt	NA
Protected Phases	4		2		1	6
Permitted Phases		4			6	
Detector Phase	4	4	2		1	6
Switch Phase						
Minimum Initial (s)	6.0	6.0	10.0		6.0	10.0
Minimum Split (s)	16.0	16.0	19.0		16.0	15.0
Total Split (s)	22.0	22.0	52.0		16.0	68.0
Total Split (%)	24.4%	24.4%	57.8%		17.8%	75.6%
Yellow Time (s)	3.0	3.0	3.0		3.0	3.0
All-Red Time (s)	3.0	3.0	2.0		3.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	6.0	6.0	5.0		6.0	5.0
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?			Yes		Yes	
Recall Mode	None	None	C-Min		None	C-Min
Act Effct Green (s)	13.0	13.0	53.1		65.0	66.0
Actuated g/C Ratio	0.14	0.14	0.59		0.72	0.73
v/c Ratio	0.67	0.41	0.40		0.28	0.22
Control Delay	49.4	9.6	6.4		6.0	4.5
Queue Delay	0.0	0.0	0.3		0.0	0.0
Total Delay	49.4	9.6	6.7		6.0	4.5
LOS	D	A	A		A	A
Approach Delay	31.1		6.7			4.8
Approach LOS	C		A			A
Queue Length 50th (ft)	91	0	56		18	44
Queue Length 95th (ft)	145	46	71		43	78
Internal Link Dist (ft)	66		161			322
Turn Bay Length (ft)					150	
Base Capacity (vph)	315	401	1999		500	2552
Starvation Cap Reductn	0	0	596		0	0
Spillback Cap Reductn	0	0	0		0	266
Storage Cap Reductn	0	0	0		0	0
Reduced v/c Ratio	0.53	0.35	0.57		0.26	0.25















Intersection Summary

Area Type: Other
 Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 5 (6%), Referenced to phase 2:NBT and 6:SBTL, Start of Yellow
 Natural Cycle: 55
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.67
 Intersection Signal Delay: 10.1
 Intersection Capacity Utilization 49.8%
 Analysis Period (min) 15

Intersection LOS: B
ICU Level of Service A

Splits and Phases: 15: Hammond Pond Parkway & The Street Driveway

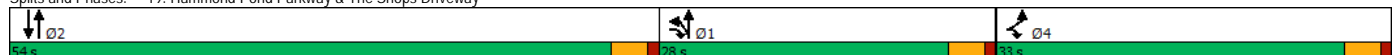


						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations	 		 		 	
Traffic Volume (vph)	145	116	113	652	485	245
Future Volume (vph)	145	116	113	652	485	245
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	11	11	11
Storage Length (ft)	0	0	115			0
Storage Lanes	2	1	1			0
Taper Length (ft)	25		25			
Satd. Flow (prot)	3385	1546	1586	1818	3287	0
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	3385	1546	1586	1818	3287	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		136			104	
Link Speed (mph)	30			30	30	
Link Distance (ft)	411			1024	427	
Travel Time (s)	9.3			23.3	9.7	
Peak Hour Factor	0.79	0.85	0.84	0.84	0.90	0.87
Heavy Vehicles (%)	0%	1%	10%	1%	1%	0%
Adj. Flow (vph)	184	136	135	776	539	282
Shared Lane Traffic (%)						
Lane Group Flow (vph)	184	136	135	776	821	0
Turn Type	Prot	pt+ov	Prot	NA	NA	
Protected Phases	4	4 1	1	1 2	2	
Permitted Phases						
Detector Phase	4	4 1	1	1 2	2	
Switch Phase						
Minimum Initial (s)	14.0		14.0		16.0	
Minimum Split (s)	18.0		18.0		20.0	
Total Split (s)	33.0		28.0		54.0	
Total Split (%)	28.7%		24.3%		47.0%	
Yellow Time (s)	3.0		3.0		3.0	
All-Red Time (s)	1.0		1.0		1.0	
Lost Time Adjust (s)	0.0		0.0		0.0	
Total Lost Time (s)	4.0		4.0		4.0	
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?			Yes		Yes	
Recall Mode	None		None		Min	
Act Effct Green (s)	14.4	36.7	18.1	58.2	35.9	
Actuated g/C Ratio	0.18	0.45	0.22	0.72	0.44	
v/c Ratio	0.31	0.18	0.38	0.59	0.54	
Control Delay	34.1	3.9	32.3	7.3	15.3	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	34.1	3.9	32.3	7.3	15.3	
LOS	C	A	C	A	B	
Approach Delay	21.3			11.0	15.3	
Approach LOS	C			B	B	
Queue Length 50th (ft)	41	0	57	151	127	
Queue Length 95th (ft)	77	29	118	191	202	
Internal Link Dist (ft)	331			944	347	
Turn Bay Length (ft)			115			
Base Capacity (vph)	1250	1039	485	1456	2131	
Starvation Cap Reductn	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	
Reduced v/c Ratio	0.15	0.13	0.28	0.53	0.39	

Intersection Summary

Area Type: Other
Cycle Length: 115
Actuated Cycle Length: 80.8
Natural Cycle: 60
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.59
Intersection Signal Delay: 14.3
Intersection Capacity Utilization 54.6%
Analysis Period (min) 15
Intersection LOS: B
ICU Level of Service A










Splits and Phases: 19: Hammond Pond Parkway & The Shops Driveway



HCM Unsignalized Intersection Capacity Analysis

11: Hammond Pond Parkway

10/29/2020

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	0	0	0	0	0
Future Volume (Veh/h)	0	0	0	0	0	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.33	0.50	0.50	0.86	0.92	0.62
Hourly flow rate (vph)	0	0	0	0	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh						
Upstream signal (ft)				427		
pX, platoon unblocked						
vC, conflicting volume	0	0	0			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	0	0	0			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	100			
cM capacity (veh/h)	1029	1091	1636			
Direction, Lane #	EB 1	NB 1	NB 2	SB 1	SB 2	
Volume Total	0	0	0	0	0	
Volume Left	0	0	0	0	0	
Volume Right	0	0	0	0	0	
cSH	1700	1700	1700	1700	1700	
Volume to Capacity	0.00	0.00	0.00	0.00	0.00	
Queue Length 95th (ft)	0	0	0	0	0	
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	
Lane LOS	A					
Approach Delay (s)	0.0	0.0		0.0		
Approach LOS	A					
Intersection Summary						
Average Delay			0.0			
Intersection Capacity Utilization			0.0%	ICU Level of Service		A
Analysis Period (min)			15			

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑	↑	↑	↑		↑		↑		↑	↑
Traffic Volume (vph)	0	493	183	90	460	0	497	0	734	15	274	40
Future Volume (vph)	0	493	183	90	460	0	497	0	734	15	274	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	10	11	12	12	11	12	11	12	12	12
Storage Length (ft)	0		175	150		0	0		160	0		125
Storage Lanes	0		1	1		0	1		1	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.850						0.850			0.850
Flt Protected				0.950			0.950				0.997	
Satd. Flow (prot)	0	1845	1507	1745	1845	0	1745	0	1561	0	1894	1615
Flt Permitted				0.950			0.950				0.997	
Satd. Flow (perm)	0	1845	1507	1745	1845	0	1745	0	1561	0	1894	1615
Right Turn on Red			No			No			Yes			Yes
Satd. Flow (RTOR)									389			166
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		419			534			1685			324	
Travel Time (s)		9.5			12.1			38.3			7.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.93	0.25	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	3%	0%	0%	3%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	0	536	199	98	500	0	534	0	798	16	298	43
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	536	199	98	500	0	534	0	798	0	314	43
Turn Type		NA	Over	Prot	NA		Prot		pt+ov	Split	NA	Free
Protected Phases		2	4	1	6		4		1 4	8	8	
Permitted Phases												Free
Detector Phase		2	4	1	6		4		1 4	8	8	
Switch Phase												
Minimum Initial (s)		6.0	6.0	6.0	6.0		6.0			6.0	6.0	
Minimum Split (s)		11.0	21.0	11.0	11.0		21.0			20.0	20.0	
Total Split (s)		39.0	37.0	17.0	56.0		37.0			22.0	22.0	
Total Split (%)		33.9%	32.2%	14.8%	48.7%		32.2%			19.1%	19.1%	
Maximum Green (s)		34.0	31.0	12.0	51.0		31.0			17.5	17.5	
Yellow Time (s)		4.0	3.0	4.0	4.0		3.0			3.5	3.5	
All-Red Time (s)		1.0	3.0	1.0	1.0		3.0			1.0	1.0	
Lost Time Adjust (s)		0.0	0.0	0.0	0.0		0.0			0.0	0.0	
Total Lost Time (s)		5.0	6.0	5.0	5.0		6.0			4.5		
Lead/Lag		Lag		Lead								
Lead-Lag Optimize?		Yes		Yes								
Vehicle Extension (s)		1.0	1.0	1.0	1.0		1.0			1.0	1.0	
Recall Mode		Min	None	None	Min		None			None	None	
Walk Time (s)										4.0	4.0	
Flash Dont Walk (s)										11.0	11.0	
Pedestrian Calls (#/hr)										0	0	
Act Effct Green (s)		33.9	31.0	11.0	49.9		31.0		48.0		17.5	113.9
Actuated g/C Ratio		0.30	0.27	0.10	0.44		0.27		0.42		0.15	1.00
v/c Ratio		0.98	0.49	0.58	0.62		1.13		0.90		1.08	0.03
Control Delay		73.3	39.8	63.8	28.7		119.4		30.7		121.9	0.0
Queue Delay		0.0	0.0	0.0	0.0		0.0		0.0		0.0	0.0
Total Delay		73.3	39.8	63.8	28.7		119.4		30.7		121.9	0.0
LOS		E	D	E	C		F		C		F	A
Approach Delay		64.2			34.5		66.3				107.2	
Approach LOS		E			C		E				F	
Queue Length 50th (ft)		394	124	70	276		-461		316		-262	0
Queue Length 95th (ft)		#619	200	127	390		#674		#607		#439	0
Internal Link Dist (ft)		339			454		1605				244	
Turn Bay Length (ft)			175	150					160			125
Base Capacity (vph)		550	410	183	826		474		893		291	1615
Starvation Cap Reductn		0	0	0	0		0		0		0	0
Spillback Cap Reductn		0	0	0	0		0		0		0	0
Storage Cap Reductn		0	0	0	0		0		0		0	0
Reduced v/c Ratio		0.97	0.49	0.54	0.61		1.13		0.89		1.08	0.03

Intersection Summary

Area Type: Other

Cycle Length: 115

Actuated Cycle Length: 113.9

Natural Cycle: 110

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 1.13

Intersection Signal Delay: 64.3

Intersection LOS: E

Intersection Capacity Utilization 98.7%

ICU Level of Service F

Analysis Period (min) 15

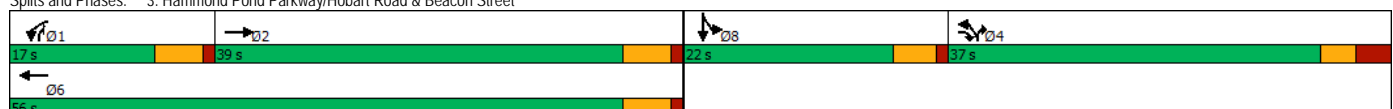
- Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 3: Hammond Pond Parkway/Hobart Road & Beacon Street

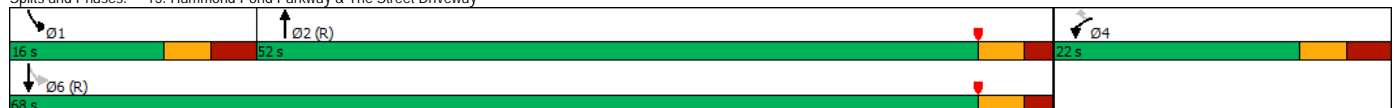














	↖	↗	↑	↘	↙	↓
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↖	↗	↑↓	↖	↗	↑
Traffic Volume (vph)	18	17	1137	140	39	524
Future Volume (vph)	18	17	1137	140	39	524
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	11	11	11
Storage Length (ft)	0	0		0	150	
Storage Lanes	1	1		0	1	
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	0.95	0.95	1.00	1.00
Frt		0.850	0.983			
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1728	1561	3363	0	1728	1818
Flt Permitted	0.950				0.151	
Satd. Flow (perm)	1728	1561	3363	0	275	1818
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		18	23			
Link Speed (mph)	30		30			30
Link Distance (ft)	146		241			402
Travel Time (s)	3.3		5.5			9.1
Peak Hour Factor	0.92	0.92	0.94	0.92	0.93	0.92
Heavy Vehicles (%)	1%	0%	2%	2%	1%	1%
Adj. Flow (vph)	20	18	1210	152	42	570
Shared Lane Traffic (%)						
Lane Group Flow (vph)	20	18	1362	0	42	570
Turn Type	Prot	Perm	NA		pm+pt	NA
Protected Phases	4		2		1	6
Permitted Phases		4			6	
Detector Phase	4	4	2		1	6
Switch Phase						
Minimum Initial (s)	6.0	6.0	10.0		6.0	10.0
Minimum Split (s)	16.0	16.0	19.0		16.0	15.0
Total Split (s)	22.0	22.0	52.0		16.0	68.0
Total Split (%)	24.4%	24.4%	57.8%		17.8%	75.6%
Maximum Green (s)	16.0	16.0	47.0		10.0	63.0
Yellow Time (s)	3.0	3.0	3.0		3.0	3.0
All-Red Time (s)	3.0	3.0	2.0		3.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	6.0	6.0	5.0		6.0	5.0
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?			Yes		Yes	
Vehicle Extension (s)	2.0	2.0	2.0		2.0	2.0
Recall Mode	None	None	C-Min		None	C-Min
Walk Time (s)	7.0	7.0	7.0		7.0	
Flash Dont Walk (s)	3.0	3.0	7.0		3.0	
Pedestrian Calls (#/hr)	0	0	0		0	
Act Effct Green (s)	6.3	6.3	72.3		76.5	79.5
Actuated g/C Ratio	0.07	0.07	0.80		0.85	0.88
v/c Ratio	0.17	0.14	0.50		0.13	0.35
Control Delay	42.4	20.1	2.4		2.6	2.5
Queue Delay	0.0	0.0	0.0		0.0	0.0
Total Delay	42.4	20.1	2.4		2.6	2.5
LOS	D	C	A		A	A
Approach Delay	31.8		2.4			2.6
Approach LOS	C		A			A
Queue Length 50th (ft)	11	0	50		4	64
Queue Length 95th (ft)	33	21	28		10	106
Internal Link Dist (ft)	66		161			322
Turn Bay Length (ft)					150	
Base Capacity (vph)	307	292	2706		395	1606
Starvation Cap Reductn	0	0	182		0	0
Spillback Cap Reductn	0	0	0		0	77
Storage Cap Reductn	0	0	0		0	0
Reduced v/c Ratio	0.07	0.06	0.54		0.11	0.37

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 5 (6%), Referenced to phase 2:NBT and 6:SBTL, Start of Yellow
Natural Cycle: 65
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.50
Intersection Signal Delay: 3.0 Intersection LOS: A
Intersection Capacity Utilization 50.1% ICU Level of Service A
Analysis Period (min) 15

Splits and Phases: 15: Hammond Pond Parkway & The Street Driveway

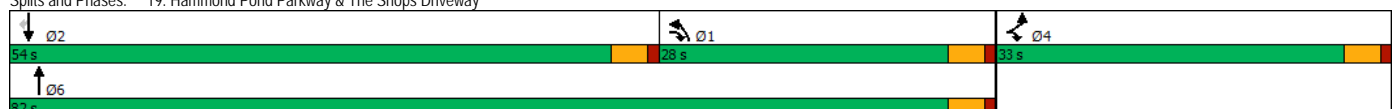


						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	44	14	26	1194	518	61
Future Volume (vph)	44	14	26	1194	518	61
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	11	11	11
Storage Length (ft)	0	0	115			150
Storage Lanes	1	1	1			1
Taper Length (ft)	25		25			
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850				0.850
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1745	1546	1586	1818	1818	1561
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	1745	1546	1586	1818	1818	1561
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		15				45
Link Speed (mph)	30			30	30	
Link Distance (ft)	411			1024	427	
Travel Time (s)	9.3			23.3	9.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	1%	10%	1%	1%	0%
Adj. Flow (vph)	48	15	28	1298	563	66
Shared Lane Traffic (%)						
Lane Group Flow (vph)	48	15	28	1298	563	66
Turn Type	Prot	pt+ov	Prot	NA	NA	Perm
Protected Phases	4	4 1	1	6	2	
Permitted Phases						2
Detector Phase	4	4 1	1	6	2	2
Switch Phase						
Minimum Initial (s)	14.0		14.0	14.0	16.0	16.0
Minimum Split (s)	18.0		18.0	18.0	20.0	20.0
Total Split (s)	33.0		28.0	82.0	54.0	54.0
Total Split (%)	28.7%		24.3%	71.3%	47.0%	47.0%
Maximum Green (s)	29.0		24.0	78.0	50.0	50.0
Yellow Time (s)	3.0		3.0	3.0	3.0	3.0
All-Red Time (s)	1.0		1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0		4.0	4.0	4.0	4.0
Lead/Lag			Lag		Lead	Lead
Lead-Lag Optimize?			Yes		Yes	Yes
Vehicle Extension (s)	3.0		3.0	3.0	3.0	3.0
Recall Mode	None		None	None	Min	Min
Act Effect Green (s)	14.0	43.0	26.5	85.2	61.7	61.7
Actuated g/C Ratio	0.14	0.42	0.26	0.83	0.60	0.60
v/c Ratio	0.20	0.02	0.07	0.86	0.52	0.07
Control Delay	41.5	6.1	25.2	15.6	21.6	8.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	41.5	6.1	25.2	15.6	21.6	8.3
LOS	D	A	C	B	C	A
Approach Delay	33.0			15.8	20.2	
Approach LOS	C			B	C	
Queue Length 50th (ft)	28	0	11	505	329	9
Queue Length 95th (ft)	61	11	34	#1041	413	32
Internal Link Dist (ft)	331			944	347	
Turn Bay Length (ft)			115			150
Base Capacity (vph)	495	939	470	1509	1201	1046
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.10	0.02	0.06	0.86	0.47	0.06

Intersection Summary

Area Type: Other
 Cycle Length: 115
 Actuated Cycle Length: 102.6
 Natural Cycle: 90
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.86
 Intersection Signal Delay: 17.7
 Intersection LOS: B
 Intersection Capacity Utilization 81.2%
 ICU Level of Service D
 Analysis Period (min) 15
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.











Splits and Phases: 19: Hammond Pond Parkway & The Shops Driveway



HCM Unsignalized Intersection Capacity Analysis

11: Hammond Pond Parkway & #300 Driveway













10/29/2020

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	22	33	14	1226	539	17
Future Volume (Veh/h)	22	33	14	1226	539	17
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	24	36	15	1333	586	18
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh						
Upstream signal (ft)				427		
pX, platoon unblocked	0.20					
vC, conflicting volume	1958	595	604			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	3807	595	604			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	0	93	98			
cM capacity (veh/h)	1	508	984			
Direction, Lane #	EB 1	EB 2	NB 1	SB 1		
Volume Total	24	36	1348	604		
Volume Left	24	0	15	0		
Volume Right	0	36	0	18		
cSH	1	508	984	1700		
Volume to Capacity	27.35	0.07	0.02	0.36		
Queue Length 95th (ft)	Err	6	1	0		
Control Delay (s)	Err	12.6	0.7	0.0		
Lane LOS	F	B	A			
Approach Delay (s)	4007.2		0.7	0.0		
Approach LOS	F					
Intersection Summary						
Average Delay			120.0			
Intersection Capacity Utilization			85.7%	ICU Level of Service	E	
Analysis Period (min)			15			

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group												
Lane Configurations		↑	↑	↑	↑		↑		↑		↑	↑
Traffic Volume (vph)	0	401	287	163	465	0	513	0	420	8	373	56
Future Volume (vph)	0	401	287	163	465	0	513	0	420	8	373	56
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	11	10	11	11	12	11	12	11	11	12	12
Storage Length (ft)	0		175	150		0	0		200	0		125
Storage Lanes	0		1	1		0	1		1	0		1
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	0	1783	1507	1745	1783	0	1745	0	1561	0	1889	1538
Flt Permitted				0.950			0.950				0.999	
Satd. Flow (perm)	0	1783	1507	1745	1783	0	1745	0	1561	0	1889	1538
Right Turn on Red			No			Yes			Yes			Yes
Satd. Flow (RTOR)									426			166
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		419			534			1685			324	
Travel Time (s)		9.5			12.1			38.3			7.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.93	0.25	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	3%	0%	0%	3%	0%	0%	0%	0%	21%	0%	5%
Adj. Flow (vph)	0	436	312	177	505	0	552	0	457	9	405	61
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	436	312	177	505	0	552	0	457	0	414	61
Turn Type	NA	pm+ov	Prot	NA		Prot		pt+ov	Split	NA	Free	
Protected Phases	2	4	1	6		4		14	8	8		
Permitted Phases		2										Free
Detector Phase	2	4	1	6		4		14	8	8		
Switch Phase												
Minimum Initial (s)	6.0	6.0	5.5	6.0		6.0			6.0	6.0		
Minimum Split (s)	18.0	23.0	10.5	13.0		23.0			20.0	20.0		
Total Split (s)	34.0	37.0	20.0	54.0		37.0			24.0	24.0		
Total Split (%)	29.6%	32.2%	17.4%	47.0%		32.2%			20.9%	20.9%		
Yellow Time (s)	4.0	3.0	4.0	4.0		3.0			3.5	3.5		
All-Red Time (s)	1.0	3.0	1.0	1.0		3.0			1.0	1.0		
Lost Time Adjust (s)	0.0	0.0	0.0	0.0		0.0			0.0	0.0		
Total Lost Time (s)	5.0	6.0	5.0	5.0		6.0						
Lead/Lag	Lag		Lead									
Lead-Lag Optimize?	Yes		Yes									
Recall Mode	Ped	None	None	Min		None			Ped	Ped		
Act Effct Green (s)	28.8	58.8	13.9	47.7		31.0		50.9		19.5	113.7	
Actuated g/C Ratio	0.25	0.52	0.12	0.42		0.27		0.45		0.17	1.00	
v/c Ratio	0.97	0.40	0.83	0.68		1.16		0.49		1.28	0.04	
Control Delay	77.7	10.3	79.9	32.2		131.6		4.5		186.3	0.1	
Queue Delay	0.0	0.0	0.0	0.0		0.0		0.0		0.0	0.0	
Total Delay	77.7	10.3	79.9	32.2		131.6		4.5		186.3	0.1	
LOS	E	B	E	C		F		A		F	A	
Approach Delay	49.6			44.5		74.0				162.4		
Approach LOS	D			D		E				F		
Queue Length 50th (ft)	321	66	129	293		-489		13		-392	0	
Queue Length 95th (ft)	#525	100	#239	417		#703		75		#587	0	
Internal Link Dist (ft)	339			454		1605				244		
Turn Bay Length (ft)		175	150					200			125	
Base Capacity (vph)	455	779	230	768		476		945		324	1538	
Starvation Cap Reductn	0	0	0	0		0		0		0	0	
Spillback Cap Reductn	0	0	0	0		0		0		0	0	
Storage Cap Reductn	0	0	0	0		0		0		0	0	
Reduced v/c Ratio	0.96	0.40	0.77	0.66		1.16		0.48		1.28	0.04	

Intersection Summary	
Area Type:	Other
Cycle Length:	115
Actuated Cycle Length:	113.7
Natural Cycle:	140
Control Type:	Actuated-Uncoordinated
Maximum v/c Ratio:	1.28
Intersection Signal Delay:	75.2
Intersection Capacity Utilization:	94.0%
Analysis Period (min):	15
- Volume exceeds capacity, queue is theoretically infinite. Queue shown is maximum after two cycles.	
# 95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.	

Splits and Phases: 3: Hammond Pond Parkway/Hobart Road & Beacon Street

 01  02  03  04  05  06	 07  08	 09  10	 11  12
20 s	34 s	24 s	37 s
54 s			













	↖	↗	↑	↘	↙	↓
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↖	↗	↑↓		↖	↗
Traffic Volume (vph)	116	109	792	70	102	756
Future Volume (vph)	116	109	792	70	102	756
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	11	11	11
Storage Length (ft)	0	0		0	150	
Storage Lanes	1	1		0	1	
Taper Length (ft)	25				25	
Satd. Flow (prot)	1728	1561	3380	0	1728	1818
Flt Permitted	0.950				0.245	
Satd. Flow (perm)	1728	1561	3380	0	446	1818
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		118	16			
Link Speed (mph)	30		30			30
Link Distance (ft)	146		241			402
Travel Time (s)	3.3		5.5			9.1
Peak Hour Factor	0.92	0.92	0.94	0.92	0.93	0.92
Heavy Vehicles (%)	1%	0%	2%	2%	1%	1%
Adj. Flow (vph)	126	118	843	76	110	822
Shared Lane Traffic (%)						
Lane Group Flow (vph)	126	118	919	0	110	822
Turn Type	Prot	Perm	NA		pm+pt	NA
Protected Phases	4		2		1	6
Permitted Phases		4			6	
Detector Phase	4	4	2		1	6
Switch Phase						
Minimum Initial (s)	6.0	6.0	10.0		6.0	10.0
Minimum Split (s)	16.0	16.0	19.0		16.0	15.0
Total Split (s)	22.0	22.0	52.0		16.0	68.0
Total Split (%)	24.4%	24.4%	57.8%		17.8%	75.6%
Yellow Time (s)	3.0	3.0	3.0		3.0	3.0
All-Red Time (s)	3.0	3.0	2.0		3.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	6.0	6.0	5.0		6.0	5.0
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?			Yes		Yes	
Recall Mode	None	None	C-Min		None	C-Min
Act Effct Green (s)	10.9	10.9	58.0		67.1	68.1
Actuated g/C Ratio	0.12	0.12	0.64		0.75	0.76
v/c Ratio	0.61	0.40	0.42		0.26	0.60
Control Delay	49.1	11.1	6.1		5.2	7.7
Queue Delay	0.0	0.0	0.3		0.0	1.6
Total Delay	49.1	11.1	6.4		5.2	9.3
LOS	D	B	A		A	A
Approach Delay	30.7		6.4			8.8
Approach LOS	C		A			A
Queue Length 50th (ft)	69	0	79		14	166
Queue Length 95th (ft)	119	46	91		33	322
Internal Link Dist (ft)	66		161			322
Turn Bay Length (ft)					150	
Base Capacity (vph)	307	374	2183		475	1376
Starvation Cap Reductn	0	0	576		0	0
Spillback Cap Reductn	0	0	0		0	362
Storage Cap Reductn	0	0	0		0	0
Reduced v/c Ratio	0.41	0.32	0.57		0.23	0.81

Intersection Summary

Area Type: Other
 Cycle Length: 90
 Actuated Cycle Length: 90
 Offset: 5 (6%), Referenced to phase 2:NBT and 6:SBTL, Start of Yellow
 Natural Cycle: 55
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.61
 Intersection Signal Delay: 10.3
 Intersection Capacity Utilization 55.4%
 Analysis Period (min) 15
 Intersection LOS: B
 ICU Level of Service B

Splits and Phases: 15: Hammond Pond Parkway & The Street Driveway

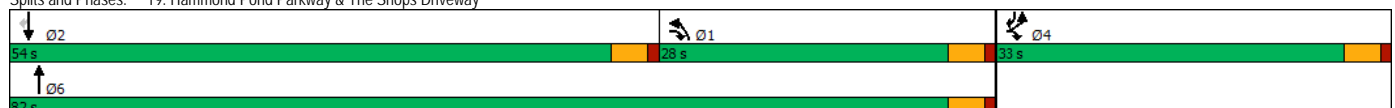


						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	123	97	60	840	756	125
Future Volume (vph)	123	97	60	840	756	125
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	11	11	11
Storage Length (ft)	0	0	115			150
Storage Lanes	1	1	1			1
Taper Length (ft)	25		25			
Satd. Flow (prot)	1745	1546	1586	1818	1818	1561
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	1745	1546	1586	1818	1818	1561
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		88				130
Link Speed (mph)	30			30	30	
Link Distance (ft)	411			1024	427	
Travel Time (s)	9.3			23.3	9.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	1%	10%	1%	1%	0%
Adj. Flow (vph)	134	105	65	913	822	136
Shared Lane Traffic (%)						
Lane Group Flow (vph)	134	105	65	913	822	136
Turn Type	Prot	pt+ov	Prot	NA	NA	pm+ov
Protected Phases	4	4 1	1	6	2	4
Permitted Phases						2
Detector Phase	4	4 1	1	6	2	4
Switch Phase						
Minimum Initial (s)	14.0		14.0	14.0	16.0	14.0
Minimum Split (s)	18.0		18.0	18.0	20.0	18.0
Total Split (s)	33.0		28.0	82.0	54.0	33.0
Total Split (%)	28.7%		24.3%	71.3%	47.0%	28.7%
Yellow Time (s)	3.0		3.0	3.0	3.0	3.0
All-Red Time (s)	1.0		1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0		4.0	4.0	4.0	4.0
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?			Yes		Yes	
Recall Mode	None		None	None	Min	None
Act Effct Green (s)	14.7	32.8	14.0	68.0	50.0	68.8
Actuated g/C Ratio	0.16	0.36	0.15	0.75	0.55	0.76
v/c Ratio	0.47	0.17	0.27	0.67	0.82	0.11
Control Delay	40.5	6.7	37.6	9.0	25.6	0.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	40.5	6.7	37.6	9.0	25.6	0.8
LOS	D	A	D	A	C	A
Approach Delay	25.7			10.9	22.1	
Approach LOS	C			B	C	
Queue Length 50th (ft)	71	6	33	204	355	1
Queue Length 95th (ft)	127	39	74	384	#647	12
Internal Link Dist (ft)	331			944	347	
Turn Bay Length (ft)			115			150
Base Capacity (vph)	557	843	419	1562	1002	1214
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.24	0.12	0.16	0.58	0.82	0.11

Intersection Summary

Area Type: Other
Cycle Length: 115
Actuated Cycle Length: 90.8
Natural Cycle: 80
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.82
Intersection Signal Delay: 17.5
Intersection Capacity Utilization 68.2%
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.











Splits and Phases: 19: Hammond Pond Parkway & The Shops Driveway























HCM Unsignalized Intersection Capacity Analysis

11: Hammond Pond Parkway & #300 Driveway

10/29/2020

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	5	5	3	970	829	6
Future Volume (Veh/h)	5	5	3	970	829	6
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.33	0.50	0.50	0.86	0.92	0.62
Hourly flow rate (vph)	15	10	6	1128	901	10
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh						
Upstream signal (ft)				427		
pX, platoon unblocked	0.69					
vC, conflicting volume	2046	906	911			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	2289	906	911			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	50	97	99			
cM capacity (veh/h)	30	337	756			
Direction, Lane #	EB 1	EB 2	NB 1	SB 1		
Volume Total	15	10	1134	911		
Volume Left	15	0	6	0		
Volume Right	0	10	0	10		
cSH	30	337	756	1700		
Volume to Capacity	0.50	0.03	0.01	0.54		
Queue Length 95th (ft)	40	2	1	0		
Control Delay (s)	210.2	16.0	0.3	0.0		
Lane LOS	F	C	A			
Approach Delay (s)	132.5		0.3	0.0		
Approach LOS	F					
Intersection Summary						
Average Delay			1.8			
Intersection Capacity Utilization			63.4%	ICU Level of Service		B
Analysis Period (min)			15			

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	233	325	133	304	0	450	0	346	8	243	24
Future Volume (vph)	0	233	325	133	304	0	450	0	346	8	243	24
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	11	10	11	11	12	11	12	11	11	11	12
Storage Length (ft)	0		175	150		0	0		200	0		125
Storage Lanes	0		1	1		0	1		1	0		1
Taper Length (ft)	25			25			25			25		
Satd. Flow (prot)	0	1783	1507	1745	1783	0	1745	0	1561	0	1820	1538
Flt Permitted				0.950			0.950				0.998	
Satd. Flow (perm)	0	1783	1507	1745	1783	0	1745	0	1561	0	1820	1538
Right Turn on Red			No			Yes			Yes			Yes
Satd. Flow (RTOR)									376			166
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		419			534			1685			324	
Travel Time (s)		9.5			12.1			38.3			7.4	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.93	0.25	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	3%	0%	0%	3%	0%	0%	0%	0%	21%	0%	5%
Adj. Flow (vph)	0	253	353	145	330	0	484	0	376	9	264	26
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	253	353	145	330	0	484	0	376	0	273	26
Turn Type		NA	Over	Prot	NA		Prot		pt+ov	Split	NA	Free
Protected Phases		2	4	1	6		4		1 4	8	8	
Permitted Phases												Free
Detector Phase		2	4	1	6		4		1 4	8	8	
Switch Phase												
Minimum Initial (s)	6.0	6.0	5.5	6.0			6.0			6.0	6.0	
Minimum Split (s)	18.0	23.0	10.5	13.0			23.0			20.0	20.0	
Total Split (s)	30.0	36.0	25.0	55.0			36.0			24.0	24.0	
Total Split (%)	26.1%	31.3%	21.7%	47.8%			31.3%			20.9%	20.9%	
Yellow Time (s)	4.0	3.0	4.0	4.0			3.0			3.5	3.5	
All-Red Time (s)	1.0	3.0	1.0	1.0			3.0			1.0	1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0			0.0			0.0	0.0	
Total Lost Time (s)	5.0	6.0	5.0	5.0			6.0			4.5		
Lead/Lag	Lag		Lead									
Lead-Lag Optimize?	Yes		Yes									
Recall Mode	Ped	None	None	Min			None			Ped	Ped	
Act Effect Green (s)	18.6	30.3	12.8	36.4			30.3		49.1		18.3	100.7
Actuated g/C Ratio	0.18	0.30	0.13	0.36			0.30		0.49		0.18	1.00
v/c Ratio	0.77	0.78	0.66	0.51			0.92		0.39		0.82	0.02
Control Delay	55.9	47.9	57.3	27.9			61.1		3.0		62.3	0.0
Queue Delay	0.0	0.0	0.0	0.0			0.0		0.0		0.0	0.0
Total Delay	55.9	47.9	57.3	27.9			61.1		3.0		62.3	0.0
LOS	E	D	E	C			E		A		E	A
Approach Delay	51.3			36.9				35.7			56.9	
Approach LOS	D			D				D			E	
Queue Length 50th (ft)	157	210	91	166			304		0		169	0
Queue Length 95th (ft)	261	#422	164	245			#596		50		#349	0
Internal Link Dist (ft)	339			454				1605			244	
Turn Bay Length (ft)		175	150						200			125
Base Capacity (vph)	446	453	349	893			525		1041		355	1538
Starvation Cap Reductn	0	0	0	0			0		0		0	0
Spillback Cap Reductn	0	0	0	0			0		0		0	0
Storage Cap Reductn	0	0	0	0			0		0		0	0
Reduced v/c Ratio	0.57	0.78	0.42	0.37			0.92		0.36		0.77	0.02

Intersection Summary

Area Type: Other

Cycle Length: 115

Actuated Cycle Length: 100.7

Natural Cycle: 90

Control Type: Actuated-Uncoordinated

Maximum v/c Ratio: 0.92

Intersection Signal Delay: 43.0

Intersection LOS: D

Intersection Capacity Utilization 73.2%

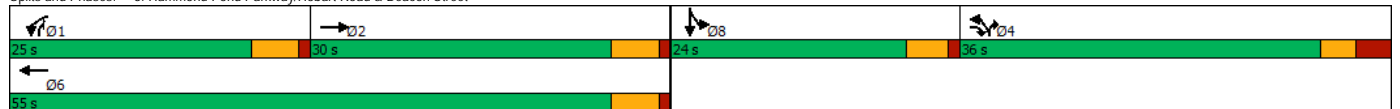
ICU Level of Service D












Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 3: Hammond Pond Parkway/Hobart Road & Beacon Street



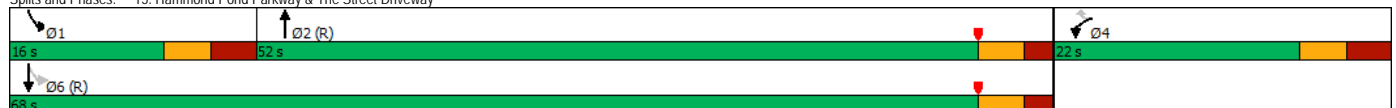
						
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	126	149	662	77	120	510
Future Volume (vph)	126	149	662	77	120	510
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	11	11	11
Storage Length (ft)	0	0		0	150	
Storage Lanes	1	1		0	1	
Taper Length (ft)	25				25	
Satd. Flow (prot)	1728	1561	3367	0	1728	1818
Flt Permitted	0.950				0.286	
Satd. Flow (perm)	1728	1561	3367	0	520	1818
Right Turn on Red		Yes		Yes		
Satd. Flow (RTOR)		162	21			
Link Speed (mph)	30		30			30
Link Distance (ft)	146		241			402
Travel Time (s)	3.3		5.5			9.1
Peak Hour Factor	0.92	0.92	0.94	0.92	0.93	0.92
Heavy Vehicles (%)	1%	0%	2%	2%	1%	1%
Adj. Flow (vph)	137	162	704	84	129	554
Shared Lane Traffic (%)						
Lane Group Flow (vph)	137	162	788	0	129	554
Turn Type	Prot	Perm	NA		pm+pt	NA
Protected Phases	4		2		1	6
Permitted Phases		4			6	
Detector Phase	4	4	2		1	6
Switch Phase						
Minimum Initial (s)	6.0	6.0	10.0		6.0	10.0
Minimum Split (s)	16.0	16.0	19.0		16.0	15.0
Total Split (s)	22.0	22.0	52.0		16.0	68.0
Total Split (%)	24.4%	24.4%	57.8%		17.8%	75.6%
Yellow Time (s)	3.0	3.0	3.0		3.0	3.0
All-Red Time (s)	3.0	3.0	2.0		3.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0		0.0	0.0
Total Lost Time (s)	6.0	6.0	5.0		6.0	5.0
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?			Yes		Yes	
Recall Mode	None	None	C-Min		None	C-Min
Act Effect Green (s)	11.5	11.5	54.7		66.5	67.5
Actuated g/C Ratio	0.13	0.13	0.61		0.74	0.75
v/c Ratio	0.62	0.48	0.38		0.27	0.41
Control Delay	49.0	10.6	5.9		5.3	5.6
Queue Delay	0.0	0.0	0.3		0.0	0.1
Total Delay	49.0	10.6	6.2		5.3	5.6
LOS	D	B	A		A	A
Approach Delay	28.2		6.2			5.6
Approach LOS	C		A			A
Queue Length 50th (ft)	75	0	53		17	91
Queue Length 95th (ft)	127	52	69		39	176
Internal Link Dist (ft)	66		161			322
Turn Bay Length (ft)					150	
Base Capacity (vph)	308	411	2054		518	1365
Starvation Cap Reductn	0	0	646		0	0
Spillback Cap Reductn	0	0	0		0	109
Storage Cap Reductn	0	0	0		0	0
Reduced v/c Ratio	0.44	0.39	0.56		0.25	0.44













Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 90
Offset: 5 (6%), Referenced to phase 2:NBT and 6:SBTL, Start of Yellow
Natural Cycle: 55
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.62
Intersection Signal Delay: 9.7
Intersection Capacity Utilization 48.5%
Analysis Period (min) 15

Intersection LOS: A
ICU Level of Service A

Splits and Phases: 15: Hammond Pond Parkway & The Street Driveway



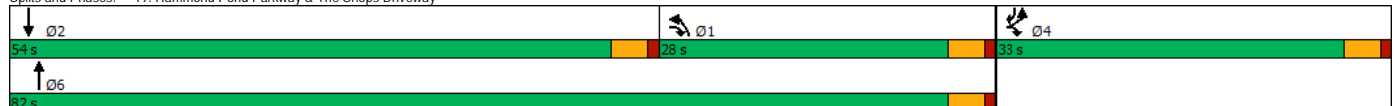
						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	145	116	113	652	485	245
Future Volume (vph)	145	116	113	652	485	245
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	11	11	11	11	11	11
Storage Length (ft)	0	0	115			150
Storage Lanes	1	1	1			1
Taper Length (ft)	25		25			
Satd. Flow (prot)	1745	1546	1586	1818	1818	1561
Flt Permitted	0.950		0.950			
Satd. Flow (perm)	1745	1546	1586	1818	1818	1561
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)		126				148
Link Speed (mph)	30			30	30	
Link Distance (ft)	411			1024	427	
Travel Time (s)	9.3			23.3	9.7	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	0%	1%	10%	1%	1%	0%
Adj. Flow (vph)	158	126	123	709	527	266
Shared Lane Traffic (%)						
Lane Group Flow (vph)	158	126	123	709	527	266
Turn Type	Prot	pt+ov	Prot	NA	NA	Over
Protected Phases	4	4 1	1	6	2	4
Permitted Phases						
Detector Phase	4	4 1	1	6	2	4
Switch Phase						
Minimum Initial (s)	14.0		14.0	14.0	16.0	14.0
Minimum Split (s)	18.0		18.0	18.0	20.0	18.0
Total Split (s)	33.0		28.0	82.0	54.0	33.0
Total Split (%)	28.7%		24.3%	71.3%	47.0%	28.7%
Yellow Time (s)	3.0		3.0	3.0	3.0	3.0
All-Red Time (s)	1.0		1.0	1.0	1.0	1.0
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0		4.0	4.0	4.0	4.0
Lead/Lag			Lag		Lead	
Lead-Lag Optimize?			Yes		Yes	
Recall Mode	None		None	None	Min	None
Act Effect Green (s)	15.9	35.2	15.1	45.0	25.7	15.9
Actuated g/C Ratio	0.23	0.51	0.22	0.65	0.37	0.23
v/c Ratio	0.39	0.15	0.36	0.60	0.78	0.56
Control Delay	28.5	3.2	30.1	9.5	28.1	17.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	28.5	3.2	30.1	9.5	28.1	17.4
LOS	C	A	C	A	C	B
Approach Delay	17.3			12.5	24.5	
Approach LOS	B			B	C	
Queue Length 50th (ft)	53	0	41	129	175	39
Queue Length 95th (ft)	140	30	122	295	358	140
Internal Link Dist (ft)	331			944	347	
Turn Bay Length (ft)			115			150
Base Capacity (vph)	757	1138	569	1749	1361	761
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.21	0.11	0.22	0.41	0.39	0.35

Intersection Summary

Area Type: Other
Cycle Length: 115
Actuated Cycle Length: 69.2
Natural Cycle: 60
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.78
Intersection Signal Delay: 18.2
Intersection Capacity Utilization 58.9%
Analysis Period (min) 15

Intersection LOS: B
ICU Level of Service B











Splits and Phases: 19: Hammond Pond Parkway & The Shops Driveway



HCM Unsignalized Intersection Capacity Analysis

11: Hammond Pond Parkway & #300 Driveway

10/29/2020

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	0	0	0	0	0
Future Volume (Veh/h)	0	0	0	0	0	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.33	0.50	0.50	0.86	0.92	0.62
Hourly flow rate (vph)	0	0	0	0	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage veh						
Upstream signal (ft)				427		
pX, platoon unblocked						
vC, conflicting volume	0	0	0			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	0	0	0			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	100			
cM capacity (veh/h)	1029	1091	1636			
Direction, Lane #	EB 1	EB 2	NB 1	SB 1		
Volume Total	0	0	0	0		
Volume Left	0	0	0	0		
Volume Right	0	0	0	0		
cSH	1700	1700	1700	1700		
Volume to Capacity	0.00	0.00	0.00	0.00		
Queue Length 95th (ft)	0	0	0	0		
Control Delay (s)	0.0	0.0	0.0	0.0		
Lane LOS	A	A				
Approach Delay (s)	0.0		0.0	0.0		
Approach LOS	A					
Intersection Summary						
Average Delay			0.0			
Intersection Capacity Utilization			0.0%	ICU Level of Service		A
Analysis Period (min)			15			